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SOCIAL RELATIONS AND THE
BUILT ENVIRONMENT:
ARCHAEOLOGICAL RECONSTRUCTIONS OF
CULTURAL IDEOLOGIES

by

© Jeffrey Shawn Murray

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
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Ruth Gruhn

Supervisor

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Date: 20 February 1985

ABSTRACT

Social relations provide the blueprint from which the logical interrelationship of spatial and material elements in the built environment are derived. These material representations act as part of a nonverbal communication system to encode the ideological aspects of a particular culture or sub-culture. By comparing patterned dysjunctions in the spatial and material elements of the built environment at the North-West Mounted Police post of Fort Walsh, it is possible to discern the social dynamics behind the formation of this nineteenth century site, now within the archaeological domain. A research stratagem is developed which stresses the ideological manipulation of material formations by cultural groups in the maintenance of social relations, particularly those which justify and reinforce social strategies. The result is a research framework which combines historical documentation with archaeological data. The framework proves useful not only for the analysis of settlements from the historical period, but ultimately also provides scholars and government resource management agencies with an important interpretive approach for site development and commemoration.

ACKNOWLEDGEMENTS

The historical events that helped shape Canada's western frontier are still largely unknown to the general public. As an Historical Archaeologist who has participated in a research programme which focuses on one of the more important events in western Canadian history, I am deeply aware of this rich heritage and the need to see that it is adequately commemorated and interpreted. I believe very strongly that Historical Archaeology can provide an important avenue by which this story may be told.

My interest in Historical Archaeology was first developed at Trent University by Kenneth E. Kidd, to whom I will always be indebted. The spark ignited by his seminars has continued with me to this day. I always look forward to our annual Christmas visit when we sit by the fire in his study and contemplate the past along with the future. The fire Ken started was later fanned and nurtured by James V. Sciscenti, the principal investigator on the Fort Walsh project from 1973 to the spring of 1976. Jim showed me the true value of scientific analysis, and taught me its proper application to Historical Archaeology. His example prepared me for the day when I would assume responsibility for the Fort Walsh project. I will always admire Jim for his commitment to excellence, and will always be thankful for the strong support he has given me.

On this note, I would also like to extend my sincere appreciation to the members of my thesis committee: Ruth Gruhn, my supervisor; Cliff Hickey; and Paul Donahue. Their constructive criticism and editorial assistance has contributed greatly to the final product.

Over the course of the field work leading to this final collation and synthesis, I have often paused in private to thank the many assistants that have given so much of themselves to the successful completion of the Fort Walsh archaeology project. For their interest and involvement, I would now like to take this opportunity to extend my deepest gratitude to: Don Brown, Anita Campbell, Pat Filteau, Bob Hromadiuk, Frank Kense, Marc Lamontagne, Joe Last, Kevin Lunn, Susan Murdock, Sandy Olynyk, Antoney Pacey, Suzanne Plousos, Linda Southwood, and Alison Wylie.

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The project benefited substantially from the administrative assistance and pleasant field working environment offered by the staff at Fort Walsh National Historic Park, especially that extended by Superintendents Al Buziak and Tim Sookocheff; Acting Superintendents Bill Menzie and Jim Smith; maintenance persons Dwight Demchenko, Terry White, Dave Cole, and Del MacDiarmid; interpretor Jack Ricou; and Gary Pollock and Joan Weisgerber.

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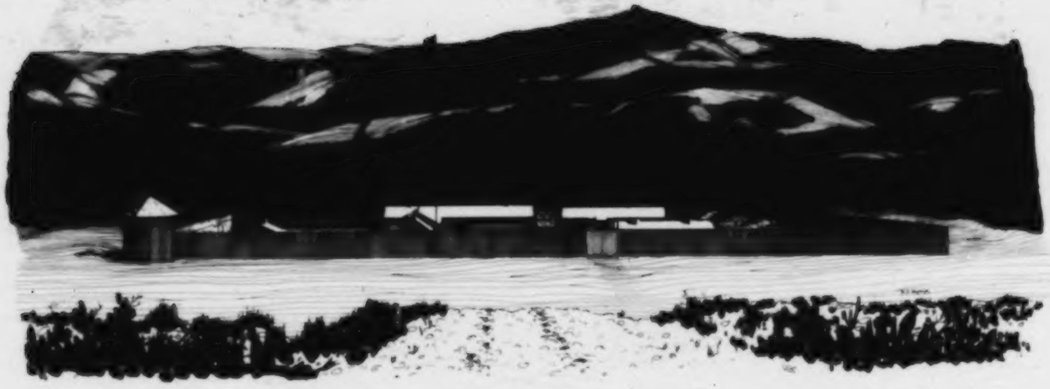

RECONSTRUCTED FORT WALSH, 1983

Fort Walsh has been dismantled and the police stationed there moved to Maple Creek....Very likely at some future day admirers of ancient ruins will rediscover its desolate mud chimneys and entwine them with romances such as the poetry loving people of the East believe to be the lot of every man who proceeded the Canadian Pacific Railway. And possibly some policeman of "Ye Olden Tyme",...will visit the scene, and forgetting that the lot of a policeman is not a happy one, will chase his buffalo and fight his battles over again,...and altogether drawing the long-bow with such a vengeance that the mud chimneys will wink at each other and grin horribly a ghastly smile [Benton Weekly Record, September 29, 1883].

CHAPTER I

INTRODUCTION

Problem Statement

Anthropologists have long recognized man's unique ability to interject cultural ideologies and social systems between himself and the natural environment. At some point early in biological evolution, human genetic make-up ceased to respond solely to the stimuli which nature offered. Unlike other species, human development changed in a direction that allowed man to project his thoughts and images into external forms (Richardson 1974). These "extensions" eventually provided man with the means to mould nature effectively to suit his biological needs (Hall 1969, 1973). Man's unique adaptation, therefore, began when "the intrinsic symbolization that lay within him became extrinsic...[allowing him to mould] behavior and substance to fit the mental images that sparkled within him" (Richardson 1974:4).

Through symbolic representations which are built into three-dimensional forms, material "extensions" encode the ideational aspects of their culture and act as a nonverbal communication system. Man bestows symbolic properties on his artifacts in an effort to communicate with the social world. It is a major task of social science to understand how this method of communication operates. By interpreting a culture's material base through a communications framework, artifacts can be seen not only to reflect social behaviour but to play a major role in maintaining social relations; in this capacity, they give form and meaning to man's behaviour.

In comparison with other artifact forms, the built environment--that aspect of the physical environment contrived by man (Rapoport 1976)--generally has a greater permanence and visibility; and, in this sense, represents the maximum expression behind man's "extrinsic symbolization" (Richardson 1974:4). Transmitting messages through the built environment requires access not only to energy and matter but also to information. "This makes it easier to monopolize information exchange in this mode via certain artifacts and to control the emission of messages....by specifying rare matter or costly energy for the signal. Coupled with the longevity of artifact signals, it also facilitates standardization of certain types of messages" (Wobst 1977:322).

Symbolic transmissions, as encoded in the built environment, have been shown to relate to man's social needs at two levels (see Gilmore 1977, Hodder 1982a). The first takes place within the individual's social group. It supposes that, in an attempt to interpret his surroundings as intelligible, the rational individual uses the built three-dimensional form as a medium for stabilizing and confirming his relationship with other members of his community. The second level of transmission operates between various groups to consolidate each group by reinforcing its identity and by isolating it from the others.

Given the parameters under which symbolic representations in the built environment operate, this thesis submits that the symbolic functions of architecture should become all the more important in situations of increasing social differentiation. In other words, when a society is made up of a variety of social groups, symbolic representations will become all the more critical for integrating some of these units while segregating others.

Historical Archaeology, with its unique archival data base and its emphasis on frontier studies, should be ideally suited for initiating investigations into this possibility. It should be possible to use the historical record along with archaeological data to develop a meaningful understanding of how a community's inhabitants perceived and structured their settlement to make the ideational aspects of their culture visible and stable.

The present work is primarily concerned with such a task. It concentrates on reconstructing the patterns that can be observed in the architectural data recovered from seven seasons of excavations at the North-West Mounted

Police post in Fort Walsh National Historical Park. Unlike most archaeological studies which focus on the "external" adaptive strategies of the site's inhabitants, the stratagem employed in this analysis looks towards communication theory for models to analyse the "internal" socio-cultural processes and associated human behaviour behind patterns in the built environment.

The expansion of eastern Canada into the northwestern parts of the North American continent during the late nineteenth century forced a number of different social groups into contact with one another. Since Fort Walsh was the vanguard of this intrusion, this thesis maintains that the N.W.M.P. post constituted the visual metaphor of the importance the police attached to the various aspects of the role it was expected to play in the development of the western Canadian hinterland. It is anticipated that symbolic representations encoded in the built environment at Fort Walsh were important for the transmission of socio-cultural affiliation, and these formations ultimately related to eastern Canadian ideologies of social control and dominance.

The primary objectives of the study can, therefore, be summarized as twofold:

1) to develop a research strategy for the analysis of settlement data; in this capacity, to contribute to the growing body of method and theory in Historical Archaeology.

2) to explain the social dynamics behind the formation of the built environment at an historic N.W.M.P. community.

Secondary contributions should also include a better understanding of western frontier settlement, particularly as it pertains to the successful attempts of an intrusive culture to confirm its presence on the western Canadian plains.

Thesis Organization

The thesis is broadly divided into three parts. The first provides the major theoretical framework which will be followed throughout the remainder of the study. It begins with a short descriptive synthesis of the archaeological investigations and includes a summary of the methodological parameters under which the excavations at Fort Walsh were initiated. This discussion provides background material and a rationale for several specific research problems on the N.W.M.P. settlement at Fort Walsh. These are proposed in chapter three along with the research design which describes the procedures and the analytical steps to be followed throughout the remainder of the thesis.

The second part of the thesis discusses the built environment at Fort Walsh in terms of the communications model. The analysis progresses in three successive stages; it begins with a general overview of the settlement and works towards specific features encoded in the three-dimensional form. The study opens by placing the N.W.M.P. post within its socio-historical perspective. At this level, the building site of Fort Walsh is considered in light of eastern Canadian ideologies concerning western frontier development. The next two chapters focus on the fort and its relationship to the local community by examining the formations encoded in the more visible or publicly-oriented aspects of the N.W.M.P. community. Finally, chapters seven and eight relate material and spatial representations in the three-dimensional form to various underlying social partitions in the organization of the police force itself.

The concluding third section looks at archaeology's limited understanding of the role of cultural ideologies in human behaviour. The implications of archaeology's traditional but rather restrictive approach to human settlement are also considered. The chapter ends with a short discussion on the importance of cultural ideologies to the understanding of the N.W.M.P.'s history and western Canadian frontier settlement in general.

In this respect, the thesis presented here is not intended as a site report. Although some raw data on the structural history of the post is provided in the appendix, the emphasis of the study is analytical; consequently, descriptive syntheses of the excavations have been kept to a minimum. For a detailed presentation of the excavation results the reader is referred to Sciscenti et al (1976), Murray and Sciscenti (1977), and Murray (1977).

While it is recognized that a complete theoretical model of settlement and its inter-relationship with the socio-cultural matrix will not be generated from a single substantive study, it is thought that the thesis will contribute to the emergence of a research strategy designed to understand the cultural processes behind the spatial configurations and architectural variability in the three-dimensional form. In as much as the physical manifestations of settlement can be observed ethnographically (see Glassie 1979 and Richardson 1982) and archaeologically, the methodology should also be of interest to other subdisciplines of anthropology.

PART I

TOWARDS AN UNDERSTANDING OF THE BUILT ENVIRONMENT

> ...the mark of man is the intense, complex and so far unexplained interplay between his body, which is nothing but a complex form of matter, and the symbolic activities of his mind. Because of this interdependence, anything that impinges upon him affects simultaneously both body and mind, and causes them to interact. Thus to study the body machine and to neglect the symbolic activities which are inextricably enmeshed with it is to ignore the most characteristic aspect of man's nature [Dubois 1965:6].

CHAPTER II

INTRODUCTION TO THE STRUCTURAL HISTORY OF FORT WALSH

The North-West Mounted Police post of Fort Walsh is situated in the Cypress Hills of southwestern Saskatchewan and adjacent Alberta, approximately forty miles north of the international border (Figure 1). Named after its founder Superintendent James Morrow Walsh, the post is located in Battle Creek Coulee, just three kilometres from the scene of the infamous Cypress Hills massacre (see Goldring 1973; 1979b).

The establishment of a federally-controlled police post in the Cypress Hills during the late nineteenth century was actually the initial step, on the part of the young Dominion of Canada, to prepare the southwestern frontier for Euro-Canadian settlement. Since the mid 1800's, this area had increasingly faced the threat of American annexation as a result of its economic domination by Montana frontiersmen working the lucrative resources of the fur trade. As the major representative of the Canadian federal presence in the North-West Territories, the Mounted Police were instrumental in regaining Canadian sovereignty over the borderlands.

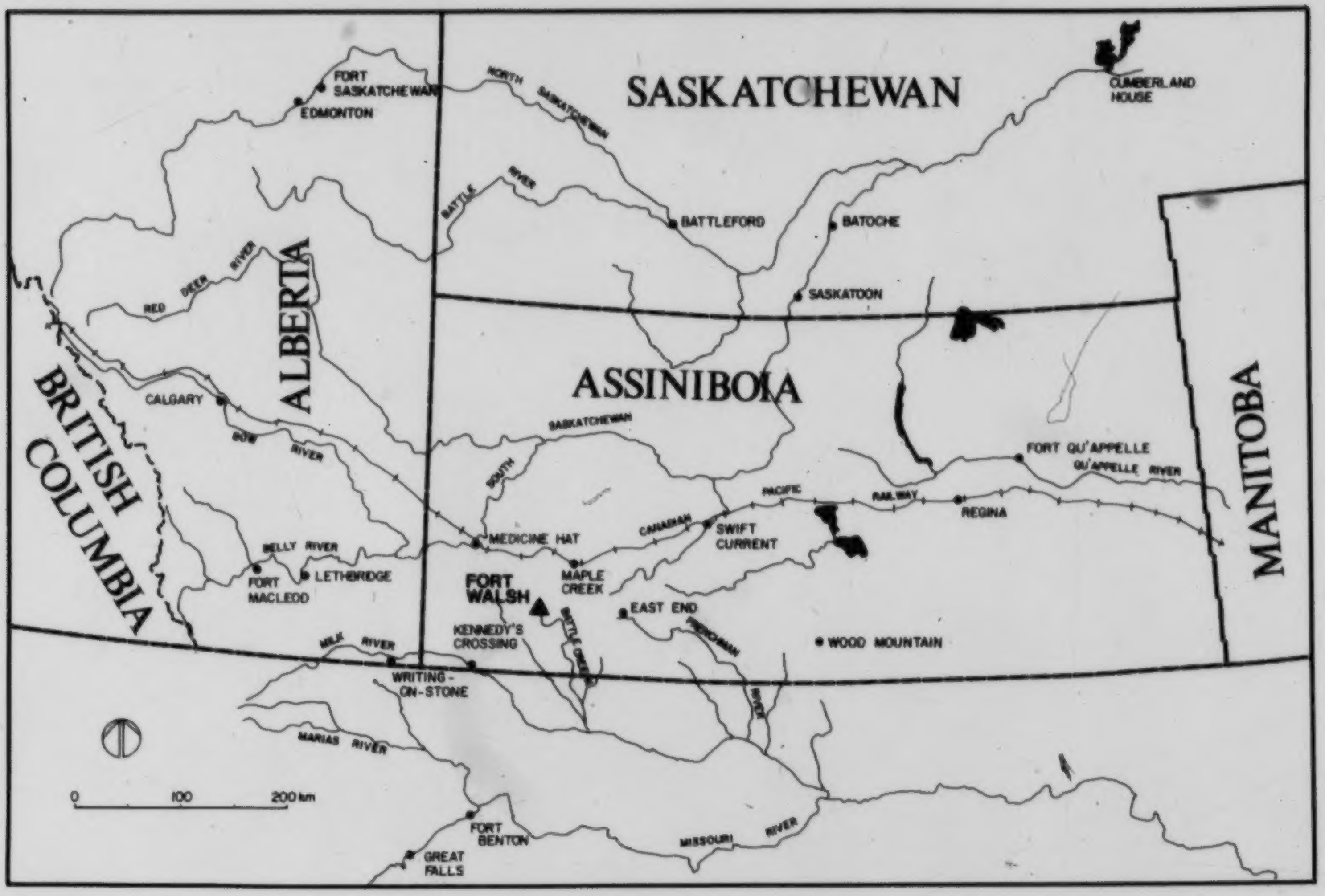
SASKATCHEWAN
ASSINIBOIA
ALBERTA
MANITOBA
BRITISH COLUMBIA
CUMBERLAND HOUSE
FORT SASKATCHEWAN
EDMONTON
NORTH SASKATCHEWAN
BATTLE RIVER
BATTLEFORD
BATOCHE
SASKATOON
RED DEER RIVER
CALGARY
BOW RIVER
SOUTH SASKATCHEWAN
FORT QU'APPELLE
QU'APPELLE RIVER
CANADIAN PACIFIC RAILWAY
REGINA
MEDICINE HAT
SWIFT CURRENT
MAPLE CREEK
BELLY RIVER
FORT MACLEOD
LETHBRIDGE
FORT WALSH
EAST END
FRENCHMAN RIVER
WOOD MOUNTAIN
KENNEDY'S CROSSING
BATTLE CREEK
MILK RIVER
WRITING-ON-STONE
MARIAS RIVER
FORT BENTON
GREAT FALLS
MISSOURI RIVER
0
100
200 km

Figure 1. Fort Walsh in its regional perspective.

Through the N.W.M.P. the federal government was able to assert its dominance over the western prairie, and transfer the frontier to the domain of the eastern Canadian marketing system. One of the more notable events connected with this transfer process and successfully brought about by the police at Fort Walsh was the suppression of the whiskey trade. This was largely an illegal trade which had been perpetrated by the Montana entrepreneurs. Along with other police posts in the territories, the Mounted Police at Fort Walsh were also responsible for the peaceful settlement of the nomadic native population on reserves.

Soon after its construction in 1875, Fort Walsh became the nucleus for the first town in the area. During the period from 1877 to 1882 the post also served as the headquarters of the police force and its major administrative centre. Divisional jurisdication included some 19,000 square miles of frontier, with outposts at Eastend, Wood Mountain, Pinto Horse, and Kennedy's Crossing (Figure 1). With the completion of railway construction to Calgary in 1883, the federal presence in the North-West Territories was more firmly represented and the priorities for law enforcement changed. In that year, Fort Walsh was declared redundant to the force's needs; and was ordered dismantled in favour of a new location 30 miles further north near Maple Creek, on the main line of the Canadian Pacific Railway.

Recognizing the important role that Fort Walsh had played in the preparation of the western territories for settlement, the Historic Sites and Mouments Board, as early as 1924, declared the post of national historic significance. In 1968 the site and 1,600 acres of park land was placed under the auspices of Parks Canada to preserve and commemorate it on behalf of the Canadian public.

Data Collection Procedures

Archaeological investigations at the N.W.M.P. post were conducted in concert with archival data collection relating both to the fort itself and to the police force in general. Prior to the excavation of individual building sites, an extensive examination of primary and secondary historical data was undertaken in order to formulate a summary statement on building location, functional history, construction methods, architectural detail, and the nature and extent of post-depositional disturbances. Although the quality of the documentation was generally limited and incomplete, the synthesis usually allowed the formation of a number of low-level inferential statements on what could be expected from the archaeological record. Such statements provided the basis from which an excavation plan could be formulated that would meet the specific requirements of each individual building.

With perhaps the exception of the N.W.M.P. well, the officers'/divisional stores complex, the powder magazine, the 1880 enlisted men's barracks, and some segments of the palisade and bastions, the majority of the building foundations at Fort Walsh could not be located prior to excavation on the basis of superficial features alone. In such cases, the approximate position of a structure was estimated by using historic photographs to extrapolate distances from the known proveniences of excavated buildings.

Subsequent to the identification of a building site, sod was removed to expose the 1883 contact surface. White clay spill that had originally been used by the police as a type of whitewash wall covering (Figure 2) could usually be distinguished in the matrix at this point. The spill delineated a rectangular outline, and provided a more precise indication of the wall locations. Since the original research design proposed by Sciscenti et al (1976) called for artifact distributional analyses in association with structural features, provenience control was oriented to the dimensions of the structure, and where evident, to interior building divisions.

Horizontal provenience control was maintained by dividing the building interior into equal size units (or suboperations) which varied according to the dimensions of the room, often ranging from four to nine square meters. The building foundations themselves and areas outside of the

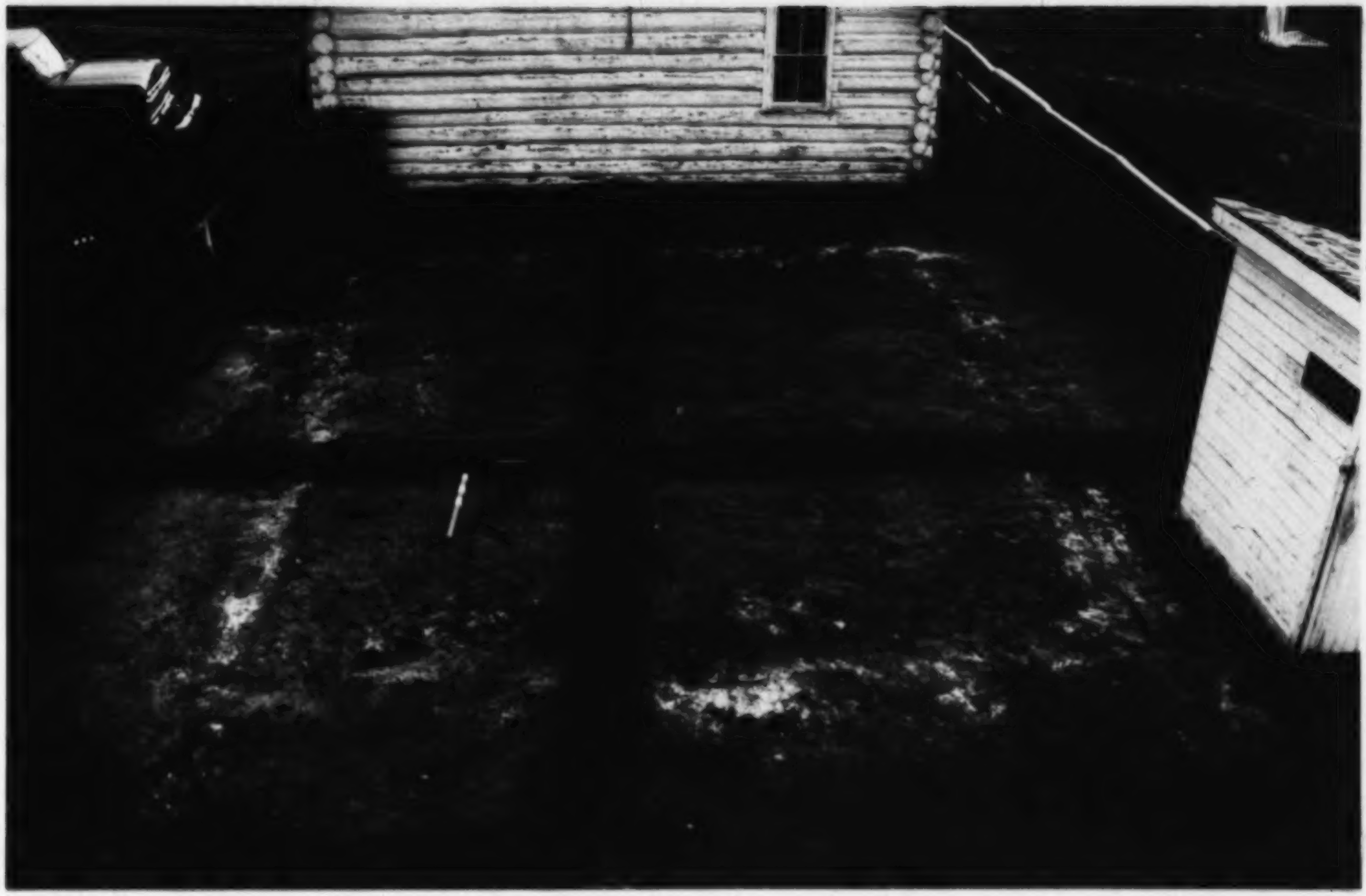

Figure 2. The 1883 ground surface as exposed at the N.C.O.'s barracks extension. The building foundations are outlined by the white clay spill (photo credit: Parks Canada 7N-627M).

structure were also excavated as separate suboperations. Specific artifact distributions were either assigned individual cluster numbers or separate lot numbers, and their proveniences were measured from base grid lines. Occupational features and artifacts dating to the N.W.M.P. period were separated from pre-occupational and post-occupational remains by assigning lot numbers to each stratigraphic level. As part of the final excavation sequence, profile trenches were excavated into the substrata underlying each building and basal construction techniques were observed.

The typical structure at Fort Walsh contained three stratigraphic levels. The first stratum, sod, contained a high humus matrix; it averaged approximately 0.05 to 0.10 m thick. It was clearly demarcated from the underlying clayish silts, and featured artifacts dating both to the period of the N.W.M.P. occupation and to the more recent use of the site as a remount station by the R.C.M.P. The second level varied in its composition across the site. In areas overlying the majority of the building foundations, the stratum consisted of a grey clayish silt. The material averaged 0.10 m to 0.30 m thick, and was found associated only with those buildings which were constructed with mud and board roofs. Since the matrix was confined within the building foundations and rested on the floor--that is, in those cases where the floorboards had not been removed during the proroofing mud. Where structures were built with a shingle roof rather than mud and boards, the building foundations were overlaid with brownish silts measuring approximately 0.05 m to 0.10 m thick. In the case of either mud or shingled roof structures, contact with substrata was demarcated by a dark brown sandy organic layer measuring 0.03 to 0.05 m in thickness, and thought to represent the original 1875 A horizon. Beneath this stratum were several zones of yellowish brown silts.

The excavations at Fort Walsh were completed with hand tools. By carefully trowelling the roofing clay from the basal structural components, the building floors were exposed together with associated artifacts. All structural features were photographed and drawn in plan view by an extant recorder. Vertical and horizontal positions were recorded from four permanent data established in the fort compound by the Engineering and Architecture Branch of Parks Canada.

Data collection methods were relatively consistent across the site. These methods have made it possible to extract a reasonably complete picture of the cultural formation processes, as they pertain to the archaeological record.

Fort Walsh Architecture: The Archaeological Context

With the abandonment of Fort Walsh in the spring of 1883, the comptroller of the force, Frederick White, issued directives to the effect that the entire post was to be dismantled (P.A.C. RG18, vol. 2294, p. 52, as cited in McCullough 1976:211). The police were given the option of either using the salvaged materials for the construction of their new quarters in Maple Creek, or selling them to the pioneer ranchers who were beginning to make their way into the Cypress Hills range lands. As near as can be estimated from the archival records, these orders were carried out in all cases, except with the hospital. Built a little more than one year before the order for dismantlement, the hospital (or at least part of it) was apparently left standing. As late as 1887, the Rocky Mountain Telegraph Company was reportedly using the building as a relay station (Interpretive Guide Resource Manual, re. History of the Remount Station).

The archaeological record would appear consistent with this conclusion since building remains at Fort Walsh were limited to basal structural components, such as foundation logs and flooring segments. In instances where some remains of the superstructure were also found overlying the foundations, such items were usually representative of only a single building material rather than the entire component. For example, roofing nails, shingle fragments, and mud plaster[1] were generally the only materials found that could be associated with the building roof; while such items as the rafters, roofing boards, and stringers were consistently absent from the remains. If the buildings had not been dismantled and had been allowed to deteriorate and collapse, these other items should have been represented in one form or another. Similarly, whitewashing materials and chinking[2] were the only wall construction items recovered across the site. Wall logs, window sashes, and door frames were not represented, as would be expected if the structure had been simply abandoned without dismantlement.

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[1] Roofing mud consisted of a clayish silt which was mixed with straw into a mud-like consistency and plastered over the roofing rafters. Although the mud plaster was covered with overlapping boards, the arrangement was not impervious to heavy rains. Apparently, the major justification for this type of roof construction lay in its insulation qualities.

Most of the basal structural components featured some evidence of burning. In a number of cases, the burning affected extensive sections of the foundation logs and flooring. Initially, the charred logs were thought to have been an attempt on the part of the N.W.M.P. to offset rapid deterioration of the foundation logs by fire-hardening the wood prior to placement in the ground (Sciscenti and Murray 1976: 4). However, further excavations revealed that the burning was not only inconsistent, with some logs more badly affected than others, but that it had in fact occurred in situ. It is unlikely that the in situ burning was the result of the destruction of the buildings by fire since no evidence of a burnt superstructure, such as ash or charcoal deposits, was found at any of the building sites. The artifacts recovered from the excavations also showed no indication of the intensive heat associated with a burning structure (for example, melted glass or metal). The burning, therefore, took place after the dismantlement of the structures and may possibly represent an attempt by the N.W.M.P. to clear the site during dismantlement by burning surface debris; or it may have been caused by grass fires which supposedly devastated much of the Cypress Hills in 1889.

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[2] The whitewash and chinking materials consisted of a white clay that was mined from the hills near East End. The clay was mixed with sand and straw when used to chink between wall logs. A much thinner consistency of the same ingredients was used to paint or whitewash the remaining wall surface.

For the most part the building remains represented at Fort Walsh were remarkably consistent, suggesting that the N.W.M.P. had repeatedly followed the same dismantling process across the site. The sequence began with the removal of interior furnishings; in several buildings, this process also included the removal of the floorboards (but not the joists). The building roof was then raised, allowing the roofing mud to fall to the floor, effectively covering and sealing the basal construction components and artifactual materials under a protective layer of clay. With the dismantlement of the walls, the clay whitewashing also fell to the ground; but it was more closely confined to the basal logs. Possibly because of their advanced state of deterioration, the foundation logs were not salvaged, except along the north wall of the baths/washrooms complex. With vertical log wall structures (such as palisades and privies) the buildings were dismantled by cutting the logs at ground level, thereby leaving behind the subterranean portion of the log.

After the abandonment of Fort Walsh in 1883, the site apparently lay unoccupied until Wood and Anderson moved into the area in 1897 (Pollock n.d.:73). Wood and Anderson located their ranch on Spring Creek, immediately west of the fort. Fortunately, most of the construction they undertook in connection with their ranching activities was located off the site (Figure 3). With the exception of several corrals and an irrigation ditch, disturbances to the archaeological record were minimal.

Extensive modern use of the site did not really begin until 1942, when the area was acquired by the Royal Canadian Mounted Police for the operation of a horse ranch. The police constructed a total of 15 structures within the confines of the original post. Many of these buildings were situated on top of the historic structures and were designed to conform partially to the 1875 architectural style and, in some cases, to the earlier functions as well. The police apparently undertook some historical and archaeological research in connection with their restorations (McCullough 1976: 233-235); however, the results of this research were never properly documented. Although the limited disturbances to the archaeological record observed in the northwestern corner of the fort have been attributed to attempts by the

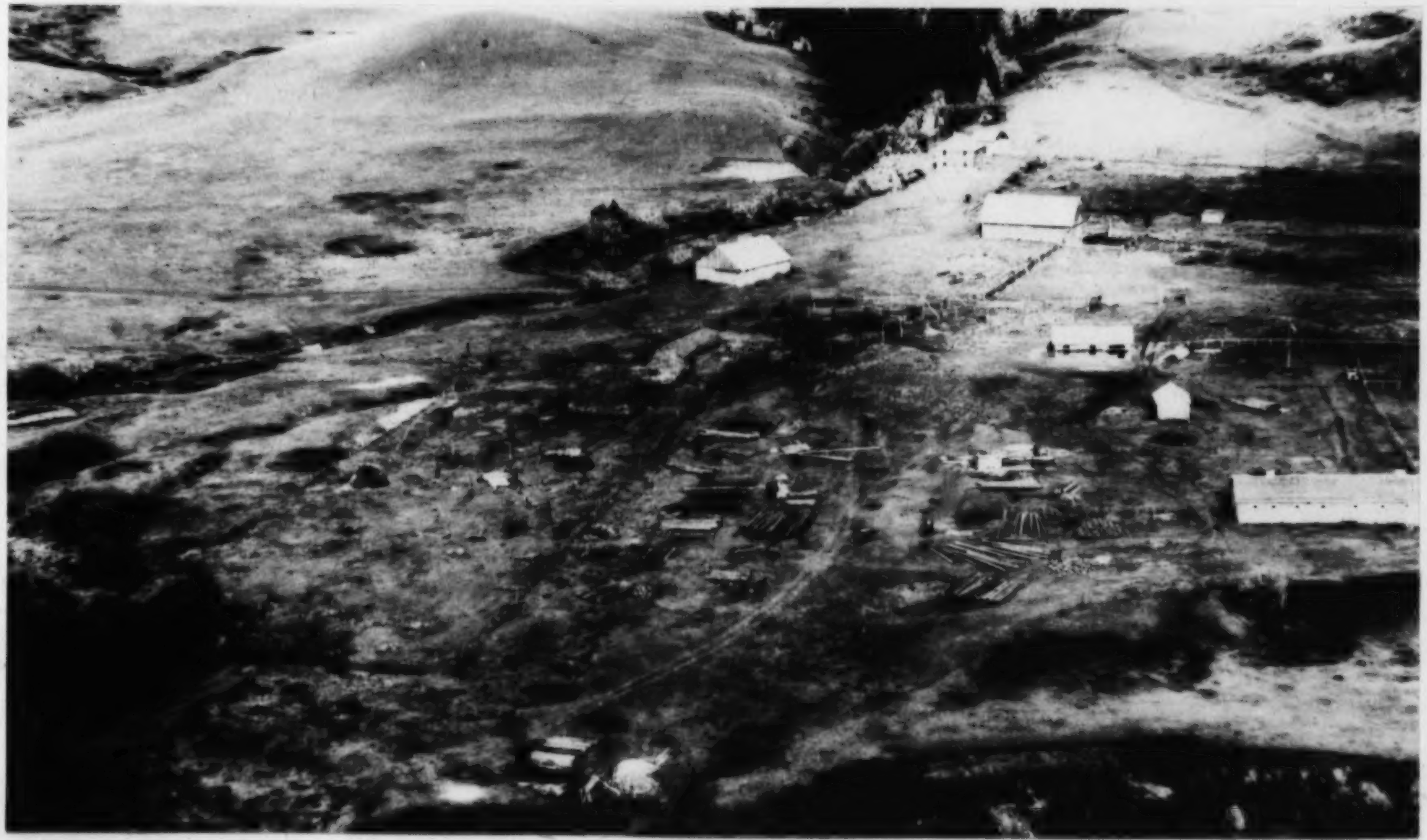


Figure 3. The first ranch established at Fort Walsh by Wood and Anderson. Photographed in the early 1940's, the R.C.M.P. remount station (centre right foreground) is under construction (photo credit: Glenbow-Alberta Institute, Na-2694-3).

police at subsurface investigations, no other such disturbances were observed by the Parks Canada archaeologists. Consequently, R.C.M.P. "potting" activities are also thought to have been minimal. More extensive disturbances to the historic remains, however, can be attributed to their construction activities. In several cases (e.g., the armoury, officers' mess, superintendent's residence, well, and the east section of the commissioner's residence), the R.C.M.P. reconstructions are known to have extensively obliterated the historic building foundations. In addition, activities connected with the operation of the site as a remount station are known to have been responsible for the deposition of sheet refuse in such areas as the southern half of the 1879 enlisted men's barracks and the officers' quarters. Fortunately, the refuse was usually confined to the upper stratum; and, during excavations, could be easily separated from the underlying historic deposits.

Summary and Discussion

By now it should be rather obvious that, in terms of its structural history, the archaeological context at Fort Walsh is not well documented. Site abandonment processes have virtually guaranteed that architectural information is primarily limited to basal structural remains, although some statements are possible with regard to the construction of building components related to the superstructure (as demonstrated in the structural histories provided in the appendix). Fortunately, methods of building dismantlement are relatively uniform across the site. Such site formation processes, when coupled with a systematic excavation strategy, allow the comparison of various building deposits and the isolation of certain patterns in the archaeological remains.

Pattern recognition in Historical Archaeology has been the concern of a number of researchers attempting to achieve the insights of the "new" archaeology (notably South 1977). Rather than rely heavily on the ecological foundations that are common in prehistoric studies to provide the theoretical constructs for explaining cultural process, consideration is here focused on a communications framework. This effort attempts to develop a stratagem that can be applied to human settlements from within archaeological contexts. In the course of the discussion that follows, it will be demonstrated that although the archaeological data base may have some limitations, this source can still be used to develop a reasonably complete picture of certain social processes that underlie the three-dimensional formation. The communications model may possibly ignore some of the traditional concerns archaeologists have for the study of human settlements, but the phenomena that are examined and measured have always been of interest to the discipline.

CHAPTER III

RESEARCH FRAMEWORK

> The individual human being, stripped of his humanity, is of no use as a conceptual base from which to make a picture of human society. No human exists except steeped in the culture of his time and place [Douglas and Isherwood 1980:63].

Although the process by which man transforms his "internal subjectivity into external forms" is still relatively unknown (Richardson 1982:2), it is obvious that mankind has learned to employ almost anything and everything in a communicative fashion, "to use any available resource in a significant manner, to transform anything into a sign" (Preziosi 1979:3). Man then reacts to these symbols, incorporating them as a part of actual environmental stimuli (Dubois 1965:6). Indeed, the medium of symbolic transmissions would appear almost as diversified as human behaviour itself; and has left at least one anthropologist to conclude that almost any human behaviour involves at least some form of information exchange, whether it be verbal or non-verbal (Wobst 1977: 322).

By superimposing a communications framework on the built environment, it is possible to distinguish between its direct and indirect effects on human activities. At one level, the messages are general, focusing on the action itself (eg., walk here), and are not restricted to a single social group. These "denotative" messages are more likely to express the overt intentions of the producer. They permit interaction between different social worlds, since most people are likely to recognize the same basic behavioural implications associated with the form (Wobst 1977).

At the same time the three-dimensional form also indirectly encodes information that tells the user something about the individual(s) or group(s) associated with it. Symbolic transmissions at this level assume meaning when they are perceived as representative of a specific social group. Such meanings are neither intrusive nor arbitrary but arise out of social interaction; they are conferred on the three-dimensional form by the social group (Duncan 1976:392).

At either level, the built environment also symbolizes and makes concrete the ideational aspects of its associated culture. "The form of the lecture hall," Gutman (1976:43-44) rightly concludes, "even when it is not in use, symbolizes the belief of a university faculty in the value of the lecture method. If a university believed that the lecture method was an educational anachronism, ...it would not continue to build lecture halls or to refurbish them". In this respect the built environment constitutes both the end product and the main ingredient of an ideational system; it assumes both passive and active properties within the realm of human behaviour.

> It [architecture] is a product of action organized and regulated by such systems, and it organizes the action and perception of those who experience it. It may express structural patterns and principles, and it may produce a sequence of experience that is governed by or expresses particular rules. And as a whole and/or in the forms and relations of its constituent elements architecture may constitute a corpus of material symbols, more or less arbitrary forms to which meanings cohere [Fritz 1978:40].

An analysis of the N.W.M.P. community at Fort Walsh within a communications framework, therefore, essentially formulates settlement layout in terms of social activities (Figure 4). It does this by concentrating primarily on the messages that have been built into the three-dimensional form, the methods by which those messages are transmitted, and the effect of symbolic representations on human behavior. To meet this objective, the stratagem employed in this thesis approaches the built environment in two successive stages, beginning with the more publicly-oriented aspects of the three-dimensional form and progressing towards less visible or more private formations.

In this way, the model recognizes that architecture is highly visible and enters into a variety of social contexts

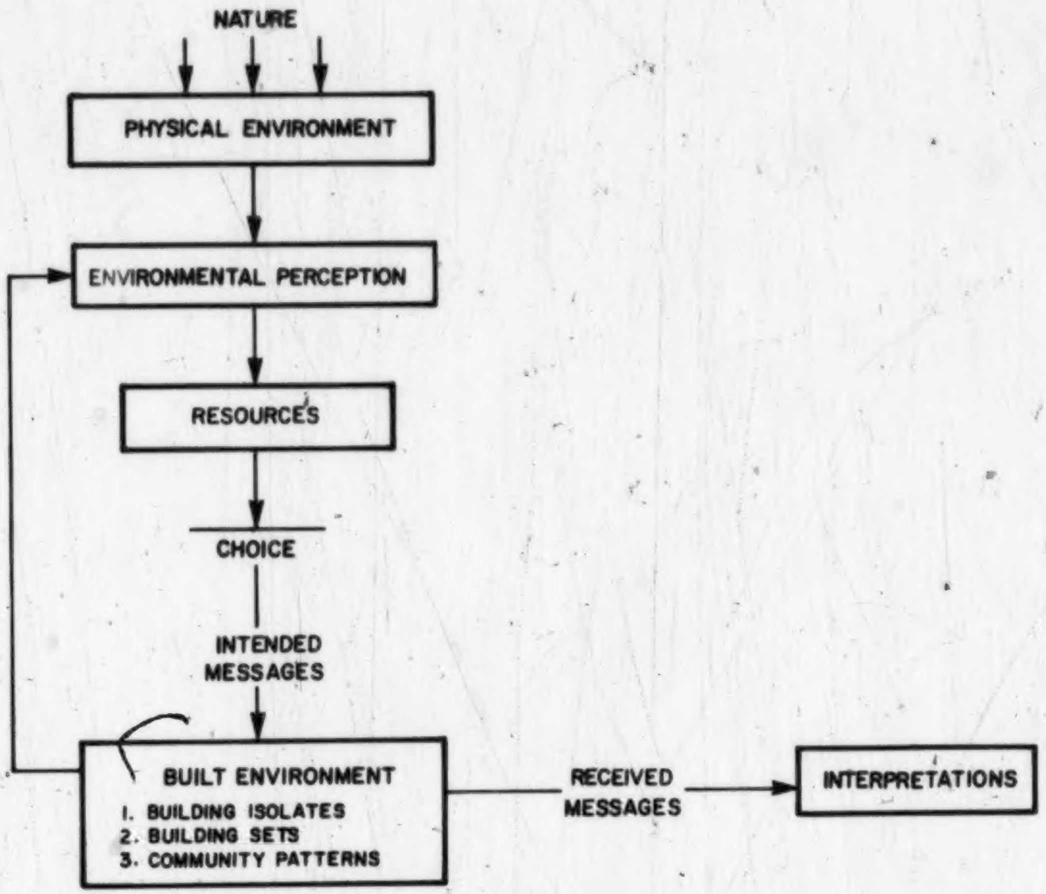

NATURE
PHYSICAL ENVIRONMENT
ENVIRONMENTAL PERCEPTION
RESOURCES
CHOICE
INTENDED MESSAGES
BUILT ENVIRONMENT
1. BUILDING ISOLATES
2. BUILDING SETS
3. COMMUNITY PATTERNS
RECEIVED MESSAGES
INTERPRETATIONS

Figure 4. A communications model of settlement.

(Duncan 1976; Appleyard 1979; Gutman 1976). The relationship between the different material manifestations encoded in the three-dimensional form will not only be directly correlated to a particular target group but, in respect to the present study, will also generate its own unique set of research concerns. Following Wobst (1977), different relationships are thought to exist between the various manifestations of the built environment and the distance of the target group from the "emitter". For example, a community may encode the internal or domestic messages which it wishes to direct towards its residents in one aspect of its architecture; and use other built forms to transmit public messages to non-residents or strangers.

The first research stage places the N.W.M.P. post within the context of its public audience--that is, the much broader frontier community--and focuses on the more highly visible or public transmissions. A review of modern historiography on the eastern Canadian expansionist movement into the North-West Territories is undertaken in order to identify the underlying partitions in the socio-cultural parameters that constitute the basis behind the formation, organization, and introduction of the N.W.M.P. to the western frontier.

The analysis is ultimately interested in cultural ideologies and how the police represented these three-dimensionally in their attempt to establish and maintain their presence in the Cypress Hills. It will be demonstrated that the N.W.M.P. post takes on meaning in direct relation to what the police perceived as their target group and the message they wanted to transmit to that group. Being representatives of eastern expansionists, it is anticipated that messages of authority, control, and sovereignty were the primary transmissions the N.W.M.P. would have encoded in the external forms of their built environment.

The second major target group to which messages in the built environment were directed was, of course, the police force itself. As already pointed out, these messages should mostly include transmissions related to internal matters in the day-to-day functioning of the community (Wobst 1977). Research at this level will be primarily concerned with defining the nature of the typical N.W.M.P. building unit at Fort Walsh as delineated through patterned variability and similarity in such building components as the geometric, morphological, and spatial "entities" (Preziosi 1979). By discussing these entities in terms of the structure's sociocultural context (that is, building function and the socioeconomic group associated with the structure), it should be possible to recognize the underlying rules by which the material formation was perceived by the police. Particular interest will centre on the symbolic representations which may have been used by the Mounted Police to ensure restricted access or the specialization of activities normally undertaken in the structure. It is predicted that building form and the interspatial relationships of the individual building units within the community constituted the two basic manifestations by which symbolic representations were encoded three-dimensionally at Fort Walsh.

In terms of the communications model, the N.W.M.P. building units consist of two fundamental "isolates". These imparted both mass and space on the architectural competence (cf. Hall 1973). Both of these isolates embody their own set of organizational rules at Fort Walsh, that were structured and given meaning by culture from which they originated.

The first isolate is the material or "formal" entity. It entails the process of giving shape and substance to what is not modelled in nature but which exists only in abstract form with the designer (Glassie 1979:19-21). It consists of all the physical parts in a building unit. In order to isolate the underlying socio-cultural variables affecting the material entity, it will be necessary to consider how the pattern is related to the larger social organization. Specifically, it is predicted that patterned differentiation may be attributed to building function--the activities formally ascribed to each structure--and to the relative social rank of the group which most frequently utilized the space.

The second major isolate is the spatial entity. It to the overall community structure. Studies at this level centre on defining each building unit in terms of its relationship to the rest of the settlement. At this level, specific questions regarding the spatial orientation and distribution of the building units within the community will be pertinent. For example, how is the building unit defined within the context of the settlement? What is its role relative to other parts of the community? How were the units arranged within their community? Does this arrangement change through time, and how are the larger social units reflected in the way the buildings are related to each other?

In both cases, the research problems investigated in this thesis attempt to find as many patterns in the material and spatial organization of the community as possible; and to relate these to the overall ideology of the inhabitants of the Fort Walsh archaeological site.

The communications model presented in this thesis accepts the human "cognized" model of the way in which reality is structured as more than just an epiphenomenon in behaviour. Man's perception of the world around him is seen to play an essential part in the structure and organization of societies. The material transformations that the built environment encodes are: 1) a passive representation of a culture's beliefs, concepts, and ideologies, and, 2) an active component employed in social strategies. Adoption of this framework allows the archaeologist to conceive the general structure or meaning that underlies material representations and to search for the conceptual scheme that links the three-dimensional form to social relations. While recognizing that the complete ideational system may not be recoverable through the culture's material base, the principles by which it was organized and structured will be indicated in the three-dimensional form. This consideration now prepares the way for a more detailed discussion of the symbolic entities represented in the built environment at Fort Walsh.

PART II

THE BUILT ENVIRONMENT AT FORT WALSH

> Placement of chimneys, doors, windows; ... the thickness of walls and proximity of outbuildings--all are definitions of space and time with highly important symbolic meanings to those who build and those who live within. At this highly personal level of meaning--existing under the auspices and within the sanctions of the culture--falsification cannot occur. Symbols may be flaunted, but they cannot be faked; they are totally honest because they are largely unconscious; only symbols affirm and reaffirm the institutions a culture holds most dear [Poulsen 1982:6].

CHAPTER IV

THE EXPANSION OF THE CANADIAN STATE INTO THE NORTHWEST

> Society was not simply a model which classificatory thought followed; it was its own divisions which served as divisions for the system of classification. The first logical categories were social categories; the first classes of things were classes of men into which these things were integrated. It was because men were grouped and thought of themselves in the form of groups that in their ideas they grouped other things. The centre of the first scheme of nature is not the individual; it is society [Douglas 1973:12].

As with all communication systems, the meaning a society encodes in its settlement formation can only be properly understood if examined within the context of the original behavioral system. A single symbolic representation, if removed from its "systemic context" (Schiffer 1976:27-41), may assume a variety of different meanings, some of which may be completely at odds with the original message. For example, Appleyard (1979) maintains that historic environments are only appreciated once they are free of their original symbolism and have entered an entirely different behavioral system. "How else can one explain the restoration ... of the czarist palaces in Leningrad. These places no longer retain their original awesome social meaning. They have become a part of a common heritage, admired for aesthetic reasons, romantic associations, or a general sense of patriotism" (Appleyard 1979:279). This chapter, therefore, establishes the systemic context from which patterned dysjunctions in the archaeological and historical records will be examined. The analysis is primarily concerned with defining the N.W.M.P. community in relation to the broader context of North American frontier settlement. The discussion concentrates on the N.W.M.P.'s perception of their role in western Canada and how this understanding was symbolically presented through their selection of a building site for Fort Walsh.

Socio-Historical Perspectives

A number of modern researchers interpret the motivation behind the formation of the Canadian nation-state as the direct outgrowth of two nineteenth century international economic developments; the first is the industrial expansion of the United States, and the second is the changeover of British imperialist policy from one of colonial preferential trade to an open world marketing system (see Bernier 1979, Panitch 1977, and Stevenson 1977). With the loss of their main source of income in the established markets of Britain and the threat of the industrial might of the United States, the Canadian colonial bourgeoisie attempted to consolidate their interests through the Act of Union in 1841 and Confederation in 1867. The union of the British colonies in North America allowed the construction of major canal and railway systems, on an east-west axis which contradicted the north-south continuity nature had already bestowed on the region. Financed at public expense, these transportation systems provided an exchange of commodities in an internal marketing system; and lessened the dependency of the colonial bourgeoisie on their American neighbour.

With the state subsidizing the construction of major transportation systems, British North America was to witness an unprecedented growth throughout the first decades of the nineteenth century. Railway and canal construction had opened vast regions of the colonies for agricultural settlement by European immigrants. By the mid 1800's, just when the commercial implications of an expanding agricultural frontier were beginning to be felt, the major land holdings on which this development depended were becoming scarce (Owram 1980:43). If Canada West--as it was then called--was to continue to attract immigration from Europe, then it had to compete with the cheap land deals being offered in the American West (Richtik 1983). The colonial bourgeoisie had to find their own surplus of good agricultural land that could be sold at nominal prices. It was perhaps only natural that the proponents of agricultural expansion through immigration would follow the American example and look to the western part of the continent as their "means to empire" (Owram 1980:58).

Support for the newly-discovered potential of the West received its major impetus from the English-speaking sectors of Canadian society (for a discussion of the French Canadian attitude towards prairie settlement see Silver 1969). Although the expansionists clearly saw the potential of western agriculture in terms of their own prosperity, much of their rhetoric was couched in patriotic terms--a patriotism which identified very strongly with the aspirations of the British Empire and looked to Victorian society as its model. For the expansionists, the process of transferring the hinterland within the Canadian marketing system entailed establishing a frontier society that was fashioned after its own image, an image based on British traditions.

The young Dominion of Canada may have been able to negotiate with Great Britain for its rightful ownership to the North-West, but it was an entirely different matter convincing the indigenous population. If Snell's (1980) assessment of American designs over the region is at all accurate, the threat of losing the territories to their southern neighbours must also have been a very real possibility for the expansionists. Surely it must have underlined the need to establish a federal presence in the North-West as early as possible. Certainly, Canada's claim to sovereignty over the western hinterland had to be firmly entrenched if the state was to commit itself to the expensive task of building a transcontinental railroad.

The establishment of a military force sufficiently strong to guarantee Eastern sovereignty claims over the region was, therefore, paramount to the introduction of a railway on the western frontier. Until railway construction could actually proceed, the force would have to assist in negotiating treaties with the indigenous population. It would also have to remind their American neighbours of Canada's right to self-destiny in the North-West.

Macdonald apparently first began considering a police force for the North-West in 1869 as part of the preparations for assuming sovereignty over the lands chartered to the Hudson's Bay Company (Horrall 1972:180). Several unplanned delays, of which the Métis insurrection at Red River was probably the most significant (see Horrall 1972; Stacey 1940), prevented actual formation of the police force for almost four years. Throughout the intervening period, the Macdonald government entertained several different ideas by which law and order could be maintained throughout the North-West Territories. Central to each of these methods was the concept of leaving the organization under the authority of the central government. Law enforcement functioning on the local level is deeply entrenched within the British legal system; and the proposals considered by the Macdonald government, in some respects, broke with this tradition. Although the British North America Act left policing in the hands of the provinces, the American experience had already demonstrated to the eastern bourgeoisie that the practice might not be suitable for the frontier; and the Métis rebellion at Red River only reinforced this suspicion. If law enforcement could be placed directly under federal authority, the expansionists would then have the security of knowing the state had increased control over the territory, its resources, and the direction of development.

Both Horrall (1972:181) and Macleod (1976b:3) emphasize Macdonald's awareness of the costs incurred by the Americans in their attempts to maintain a military force on the frontier. It was an expense which the small Canadian national bourgeoisie felt they could not afford, since they had already committed themselves to building a transcontinental railway. Macdonald, therefore, attempted a compromise by designing the North-West Mounted Police--a force which "should not be expressly Military but should be styled Police, and have the military bearing of the Irish Constabulary" (Horrall 1972:181).

By stressing this difference between the American and Canadian methods of frontier law enforcement, the Macdonald government was, in a sense, also attempting to emphasize their different ideologies towards development of the western hinterland. Although the end result of the process was, as far as the native people are concerned, essentially the same on both frontiers, the method of law enforcement chosen by the Canadians was to underline what the expansionists perceived to be the British sense of fair play by a paternalistic and benevolent upper class (Macleod 1976a). For the expansionists, this difference in ideologies, as expressed in their method of law enforcement, was a means of further justifying the international border and their presence on the northern plains.

Site Selection and Canadian Sovereignty

The summer following the N.W.M.P.'s march into the western territories, the superintendent in command of "B" division, James Morrow Walsh, was ordered to proceed with his contingent from the recently established police post at Fort Macleod to the Cypress Hills on the southwestern Canadian plains. A plateau of some 2,500 square miles, the Cypress Hills had already developed quite a notorious reputation by the mid 1870's. Situated at the headwaters of two major drainage systems, the Missouri and Saskatchewan watersheds, the Hills were not opened to Euro-American penetration until well after most other regions on the plains had been exploited. This "last refuge" combined a unique biology of intermontane, parkland, and prairie assemblages which stood in contrast with the surrounding grasslands as an oasis, providing an almost unprecedented quantity and variety of fauna suitable for the fur trade (see Nelson 1973). With the end of steam navigation on the Missouri River being located 160 miles south of the Hills at Fort Benton, Montana, American commercial dominance over the region was virtually assured, at least until such time as a railway could be built from eastern Canada.

The establishment of a police post in the Cypress Hills was, therefore, a necessary prerequisite to the federal government extending its sovereignty over the North-West. By assuming its responsibilities for maintaining law and order in the Hills, the N.W.M.P. in effect were forcing the Fort Benton "free" traders to acknowledge the Dominion's authority and rights to claim its own economic destiny in the hinterland.

The trading patterns of the Fort Benton merchants were different from those conducted by the Hudson's Bay Company in other regions of the North-West Territories. The Fort Benton entrepreneurs usually did not align themselves with any particular company but traded "freely". More importantly, their enterprise was extremely competitive and unregulated, with liquor being the chief commodity offered in exchange for the robes collected by the Plains Indians. A relentless greed for the lucrative profits promised by the whiskey trade, when combined with the isolation of the Hills from centres of authority, found the Fort Benton "free" traders continually disregarding the Canadian border and openly violating the laws of both countries (see Sharp 1973:33-54). For many people north of the forty-ninth parallel, the tensions and conflicts created by the whiskey trade epitomized the violence and lawlessness that was thought to be common to the American frontier. Even though a number of Canadians (particularly Métis) also exploited the whiskey trade, it was generally the Americans who were perceived as the instigators of social disorder on the otherwise quiet Canadian plains. This attitude underlies most aspects of Canadian/American relations on the frontier and is typified in the following letter to the Commissioner of the N.W.M.P. by Edward McKay, a Métis merchant working the Fort Benton trade:

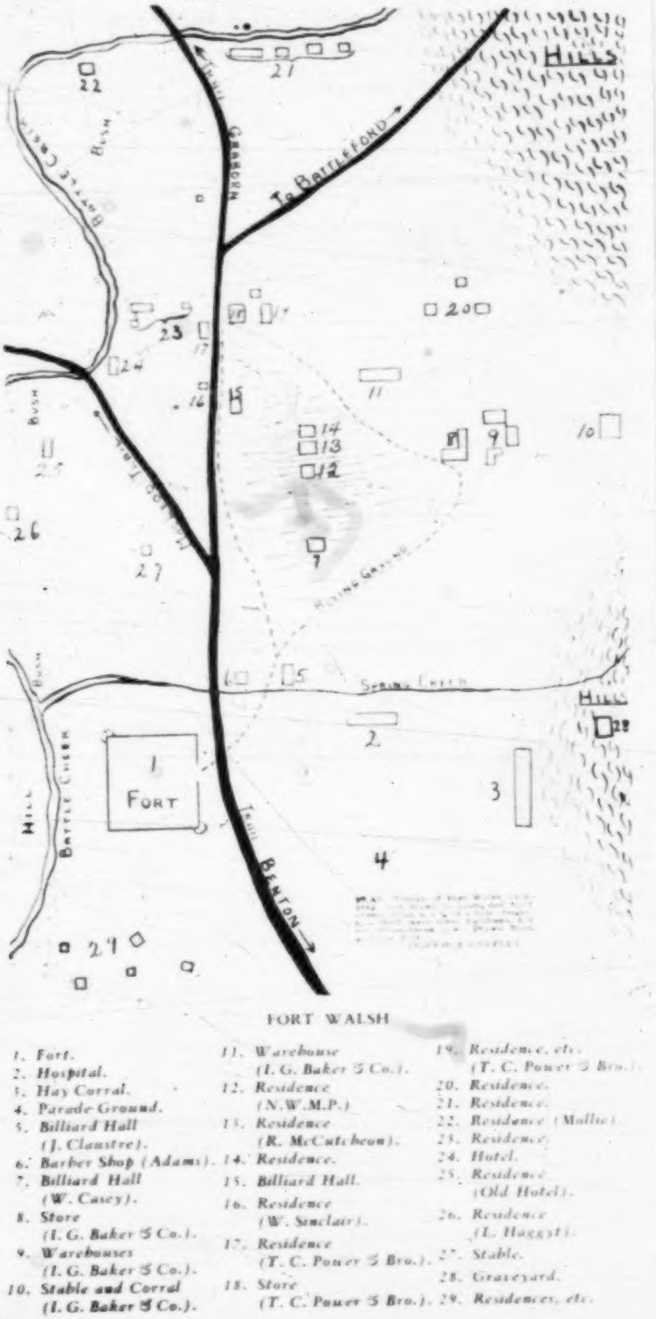
> Since I wrote you [last] there had been a battle between the Americans and Half Breeds on account of liquor. The Americans brought whiskey to the Half Breed camp -- all were drinking, and disposed to quarrel -- Americans hid two Winchester Rifles belonging to Half Breeds, who retaliated by stealing Horses from Americans. All has since been amicably settled....[McKay to French, 28 January 1875, R.C.M.P. Records. vol. 4, 1875, as cited in McLeod 1969:27].

Superintendent Walsh would later also contrast Canadian and American Indians in a similar manner:

> ...I admit that the Indians are more numerous and hostile here than they are perhaps in any other part of the country; it is not the Canadian Indians I allude to -- the Canadians are good quiet people, and are as far as I have seen anxious to do right, but during the Spring, Summer and Autumn months, there are thousands of American Indians, "Yankton", "Teton Sioux" and Assiniboines from the Missouri and Milk Rivers, [who] come into our country after Buffalo, they are bold, impertinent fellows, and would perhaps be troublesome if not properly and carefully handled... [Walsh to Richardson, 28 August 1875, R.C.M.P. Records, vol. 4, 1875, as cited in McLeod 1969:29].

The site finally chosen by Superintendent Walsh for a Cypress Hills post was of special strategic importance, but not in the usual military sense of the term (Figure 5). Situated at the confluence of Battle Creek and Spring Creek, Fort Walsh was bordered along its eastern margin by a complex system of high ridges and slopes which lay within 200 to 300 metres of the front palisade. Since these hills provided a full view of the interior compound the site was not easily defendable. Instead, the site appears to have been selected because of its proximity to a number of Fort Benton whiskey trading posts:

> The location has proved to be a good one in every respect, it is in about the centre of the mountain and in the heart of where the whiskey trade has been carried on, within a


Hills
To Battleford
Trail
Graburn
Battle Creek
Bush
Bush
Spring Creek
Riding Ground
Hills
Fort
Battle Creek
Hills
Bush
Benton
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
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28
29
FORT WALSH
1. Fort.
2. Hospital.
3. Hay Corral.
4. Parade Ground.
5. Billiard Hall (J. Claustre).
6. Barber Shop (Adams).
7. Billiard Hall (W. Casey).
8. Store (I. G. Baker & Co.).
9. Warehouses (I. G. Baker & Co.).
10. Stable and Corral (I. G. Baker & Co.).
11. Warehouse (I. G. Baker & Co.).
12. Residence (N.W.M.P.)
13. Residence (R. McCutcheon).
14. Residence.
15. Billiard Hall.
16. Residence (W. Sinclair).
17. Residence (T. C. Power & Bro.).
18. Store (T. C. Power & Bro.).
19. Residence, etc. (T. C. Power & Bro.).
20. Residence.
21. Residence.
22. Residence (Mollie).
23. Residence.
24. Hotel.
25. Residence (Old Hotel).
26. Residence (L. Haggst).
27. Stable.
28. Graveyard.
29. Residences, etc.

Figure 5. Fort Walsh and its environs as drawn from memory by H. Greely (source: Scarlet and Gold, 1935)

> few miles of the Fort there are the remains of 6 or 7 of these posts. Two of them were destroyed in April last by Indians, they made an attack, seized the traders, tied them up, then took robes, goods, whiskey, and everything of value, set the traders at liberty and burned the Post...[Walsh to Richardson, 28 August 1875, R.C.M.P. Records, vol. 7, 1875, as cited in McLeod 1969:17].

In other words, the site provided the N.W.M.P. with a means by which to implement their primary mandate as agents of the eastern expansionists' claims to sovereignty over the frontier. Fort Walsh was established not as an isolated outpost in the wilderness but rather as the "focal point of a uniquely intensive settlement system" that included some 5,000 to 6,000 Métis, Indians, and American merchants" (cf. Wylie 1978:1-6). It was a "central place"; an outpost of British civilization amidst a menacing unsettled country. As such it allowed eastern Canada to establish an immediate visual presence with an audience that was perhaps somewhat skeptical of the possibility of "Canadianization".

An equally important consideration in the selection of the building site for Fort Walsh, but one that was possibly never consciously articulated by the police, was its proximity to the scene where a group of 20 to 30 Assiniboine Indians were murdered by a party of frontiersmen. Having taken place a full two years before the arrival of the N.W.M.P. in the Cypress Hills, the massacre had already become a cause célèbre for those eastern expansionists campaigning for a Canadian presence on the northern plains. Although the massacre had been perpetuated by both American and Canadian frontiersmen, American involvement in the incident was interpreted by eastern Canadians as an infringement of their sovereignty.

Historians point to the Dominion's attempt to prosecute the perpetrators of the Cypress Hills massacre as an example of the country's commitment to an impartial system of law and order. The fact remains, however, that the Macdonald government was already well aware that violence and crime were becoming all too common on the northern plains "without displaying any of the purportedly Canadian devotion to law and order" (Morton 1977:28). Federal authorities had been advised of the problem at least two years before the incident by one of their own representatives, Lt. W.F. Butler; but had deliberately delayed acting on his recommendations. Morton explains that the abrupt change in federal policy was probably occasioned by Canada's obsession with the American claim to "Manifest Destiny":

> An American threat remained only if the young Dominion failed to sustain its own authority. A breakdown in internal order, a movement for secession, a failure to restrain marauding Indian bands might provoke official or unofficial intervention from below the border [Morton 1977:28].

Certainly, John O'Neil and the Fenian foray against Canada at Pembina in 1871 (see Stacey 1940:13) had already warned the established eastern entrepreneurs of the reality of the threat and of the need to impose firmly their own authority if Canada's economic future in the North-West was not to be disputed. The massacre merely served to consolidate their worst fears.

By establishing an outpost of law and order at the site which had proven to be the scene of the first major outbreak of inter-racial tension witnessed on the Canadian plains, the federal government was not just seeking to re-claim a region which had largely fallen under American socio-economic domination. For the eastern expansionists, the move was also a means of expressing their desire to avoid what they clearly saw as the excessiveness of the American hinterland experience. It was the wide divergence in the two systems of frontier development that the Canadian representatives were attempting to communicate. Their selection of a building site on Battle Creek, in the heart of the Cypress Hills whiskey trade, was an assertion that the frontier which had been fostered in the American West (and of which the Cypress Hills massacre had been a representation) would not be allowed on the northern plains. This explanation concerning the selection of a building site for Fort Walsh does not negate the possibility that other factors may also have been taken into consideration by the police. Some of these factors may have included the availability of resources for building materials and the proximity of grazing lands. It does, however, suggest that the ideological system was more than a mere epiphenomenon of these other realities.

Summary

This review of the historical literature on the N.W.M.P. and the development of the western Canadian hinterland does not pretend to be a conclusive account of the successive developments leading up to the establishment of Fort Walsh. Instead, it is primarily concerned with the framework in which the federal government introduced the N.W.M.P. and their Cypress Hills post to the Western Territories. It has been argued that, as representatives of the central government, the N.W.M.P. were instrumental in the transmission of eastern Canadian ideologies concerning social order on the western hinterland. In light of this ideological framework, the N.W.M.P.'s primary function is seen as a preliminary step to the transformation of the Prairie to the eastern Canadian marketing system; at least until such time as claims of ownership could be proclaimed through more substantial material formations, such as railway construction and massive pioneer settlement. Given such parameters, it has been suggested that the selection of a building site for Fort Walsh constituted a fundamental means by which Canadian sovereignty could be declared over a region that had largely fallen under the control of other frontier groups, most notably the American merchants from Fort Benton, Montana.

CHAPTER V

FORT CONSTRUCTION AND DEVELOPMENT

> The Police fort erected under the supervision of Major Walsh is considered the finest building of the land in the Northwest. It contains quarters for fifty men, also abundant storage for the quartermaster's and commissary's supplies. The location is very good, plenty of timber and grazing land in the immediate vicinity [Fort Benton Record, August 28, 1875].

Having established the systemic context behind the introduction of the N.W.M.P. to the Cypress Hills, the discussion now examines the police's relationship with local frontier social groups and the manner in which the Fort Walsh built environment was designed to reflect this relationship. The chapter opens with a synthesis of the structural history and then examines this summmary within the context of social interrelationships. The discussion prepares the way for a more detailed examination of the specific material formations presented to "outside" frontier groups, namely the palisades and bastions. These formations and their messages will be considered in the following chapter.

A Structural History of Fort Walsh

The Mounted Police began constructing their quarters soon after their arrival on Battle Creek (Turner 1950:213). The post was laidout by the officers while the enlisted ranks, along with the assitance of local Métis, cut and fitted logs for the buildings (Figure 6). Initially, only those structures that met the immediate needs of the force were erected the first summer (P.A.C. RG 18, vol. 7, file 393/75, Walsh to Richardson, 28 August 1875, as cited in McCullough 1976:130). These included: an officers' quarters and orderly room (buildings 1 and 2, Figure 7), barracks for noncommissioned officers and enlisted men (buildings 3 and 15, Figure 7), the men's mess and kitchen (building 14, Figure 7), a store room (building 4, Figure 7), two stables with attached storage facilities (buildings 5 and 12, 6 and 13, Figure 7), two privies (buildings 7 and 11, Figure 7), a blacksmith shop (building 8, Figure 7), and an enlisted men's latrine (building 9, Figure 7). By late November 1875, Fort Walsh was reportedly accommodating three officers, one surgeon, four constables, and 42 enlisted men (P.A.C., RG 18, vol. 7, file 403/75, Macleod to Bernard, 19 August 1875, as cited in McCullough 1976:137).

Within a year of its construction, extrinsic circumstances resulting from the American government's campaign against the Indian tribes of neighbouring Montana forced the N.W.M.P. to intensify their vigilance over the North-West.

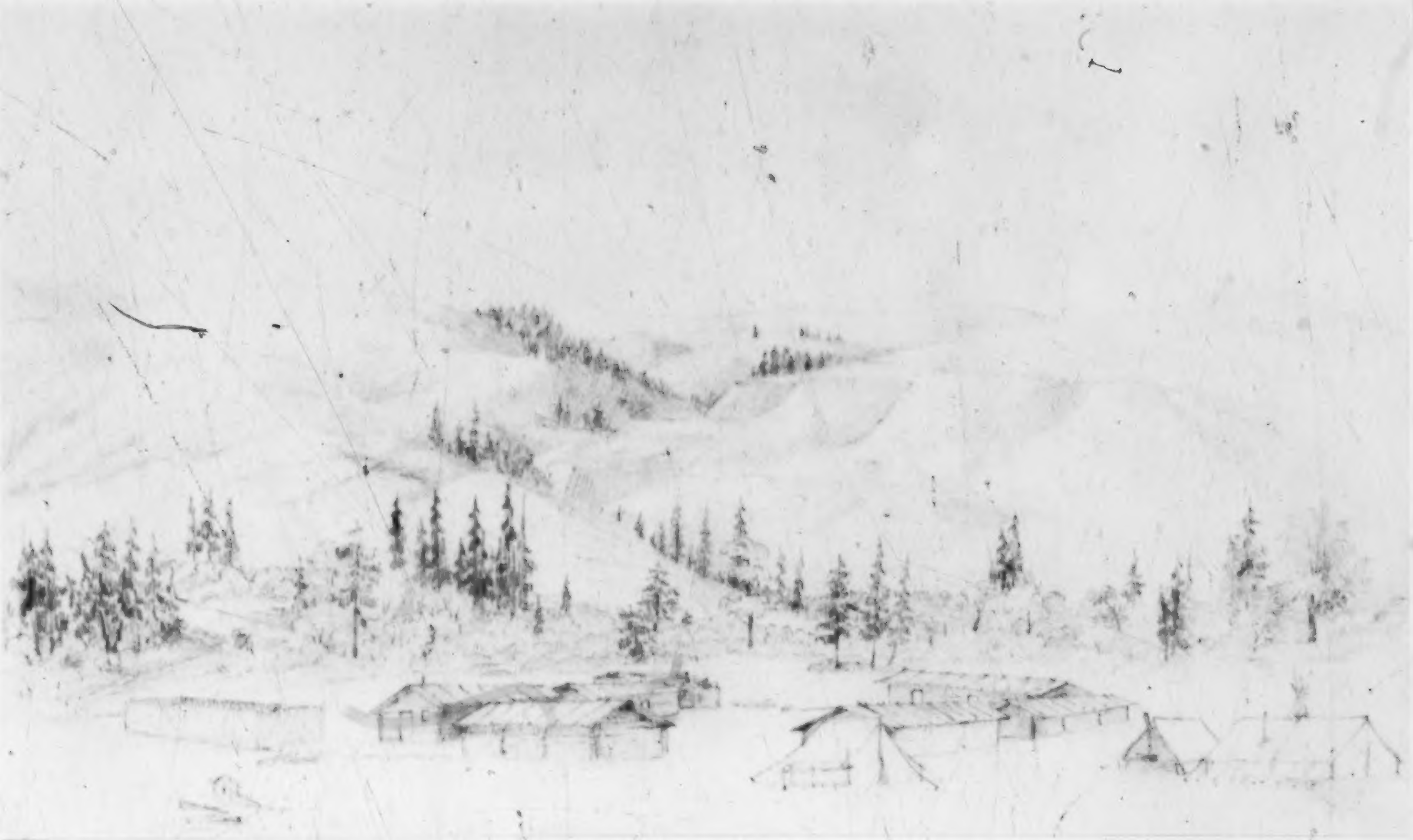

Figure 6. Fort Walsh under construction, ca. August 1875. (photo credit: Glenbow-Alberta Institute, 74.7.26).

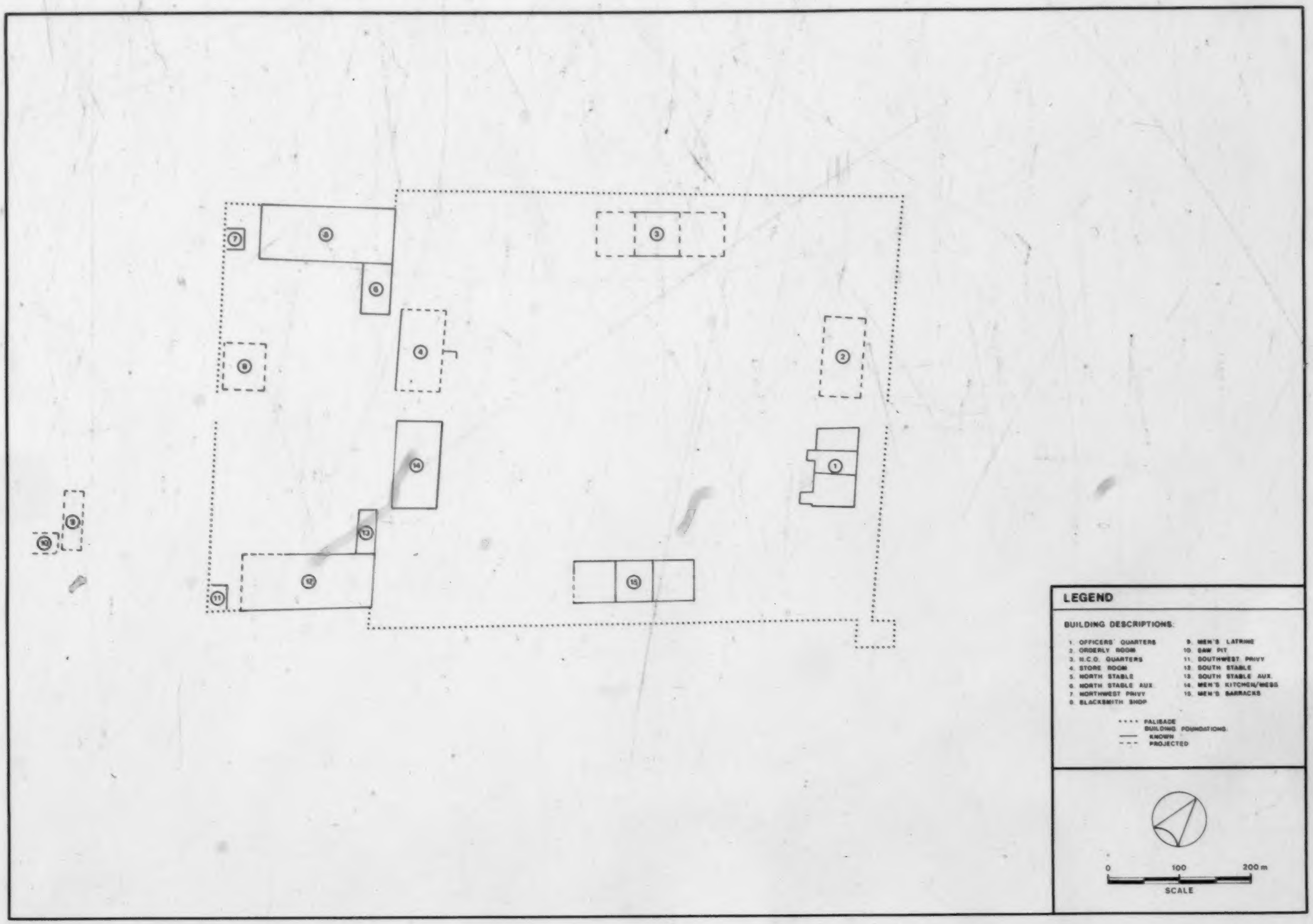
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
LEGEND
BUILDING DESCRIPTIONS:
1. OFFICERS' QUARTERS
2. ORDERLY ROOM
3. N.C.O. QUARTERS
4. STORE ROOM
5. NORTH STABLE
6. NORTH STABLE AUX.
7. NORTHWEST PRIVY
8. BLACKSMITH SHOP
9. MEN'S LATRINE
10. SAW PIT
11. SOUTHWEST PRIVY
12. SOUTH STABLE
13. SOUTH STABLE AUX.
14. MEN'S KITCHEN/MESS
15. MEN'S BARRACKS
PALISADE
BUILDING FOUNDATIONS:
KNOWN
PROJECTED
0
100
200 m
SCALE

Figure 7. Ground plan of Fort Walsh as initially constructed, 1875-76.

By the late summer of 1876, the number of tribes seeking refuge from depredations by the United States Cavalry had begun to increase considerably on the Canadian plains. For the N.W.M.P., the presence of such a large influx of American Indians seriously threatened the delicately balanced peace they were desperately attempting to preserve. The usefulness of Fort Walsh as a garrison from which eastern expansionism could impose socio-political order was, therefore, virtually assured as long as the American Indians remained north of the international border.

When news reached Fort Walsh that summer concerning the defeat of the United States Seventh Cavalry at the Battle of the Little Big Horn, the N.W.M.P. sought to control the potentially volatile situation they saw developing by transferring an extra division from one of the northern districts to Fort Walsh. Later, force headquarters would also be transferred to the post, and Assistant Commissioner (later Commissioner) Irvine was to be appointed as its commanding officer. The transfer at least doubled the strength of the garrison, and must have temporarily placed severe constraints on the rather limited facilities available for the rank and file.

As a result, Fort Walsh underwent considerable expansion and renovation throughout its history, in an effort both to accommodate new personnel as well as to meet changes occasioned by its new role as police headquarters (Figure

8). By 1878 Fort Walsh garrisoned more than 110 enlisted men and officers, and could boast of having thirteen new structures. These included additional barrack accommodation for the enlisted ranks (buildings 17 and 29, Figure 9); a residence and privy for the commissioner (buildings 26 and 27, Figure 9); a new orderly room and officers' mess (building 24, Figure 9); an armoury (building 19, Figure 9); a veterinary office (building 20, Figure 9); a quartermaster's storehouse (building 28, Figure 9); a guardhouse (building 25, Figure 9); a new stable (building 18, Figure 9); and facilities for a carpenter's shop and the treatment of sick horses (buildings 23 and 22, Figure 9).[illegible] In addition, several of the original buildings were improved by heightening and shingling their roofs (such as with structures 4 and 14, Figure 9) or by adding extensions to increase their size (such as with buildings 1 and 14, Figure 9). The function of some structures was also changed; for example, the building that had originally been built as an orderly room (building 2, Figure 9) was converted to a hospital and quarters for the superintendents, while the kitchen/mess (building 14, Figure 9) was changed to a barracks for the enlisted men.

Over the next three years, developmental programmes at Fort Walsh gradually shifted from an emphasis on meeting basic necessities to one which focused on improving the quality of living conditions. Since its inception in 1875, the N.W.M.P. post had witnessed annual outbreaks of a viral

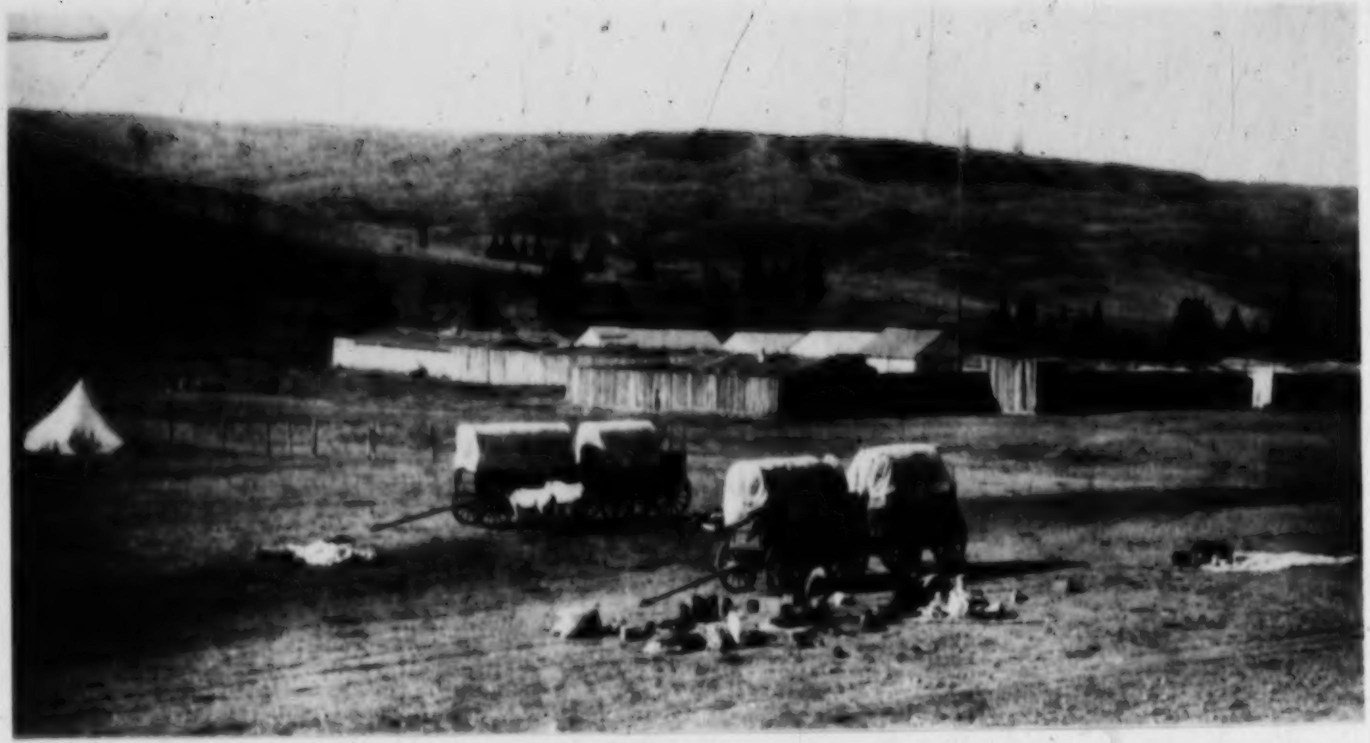

Figure 8. Fort Walsh, ca. 1878 (photo credit: R.C.M.P. Headquarters, neg. no. 914)

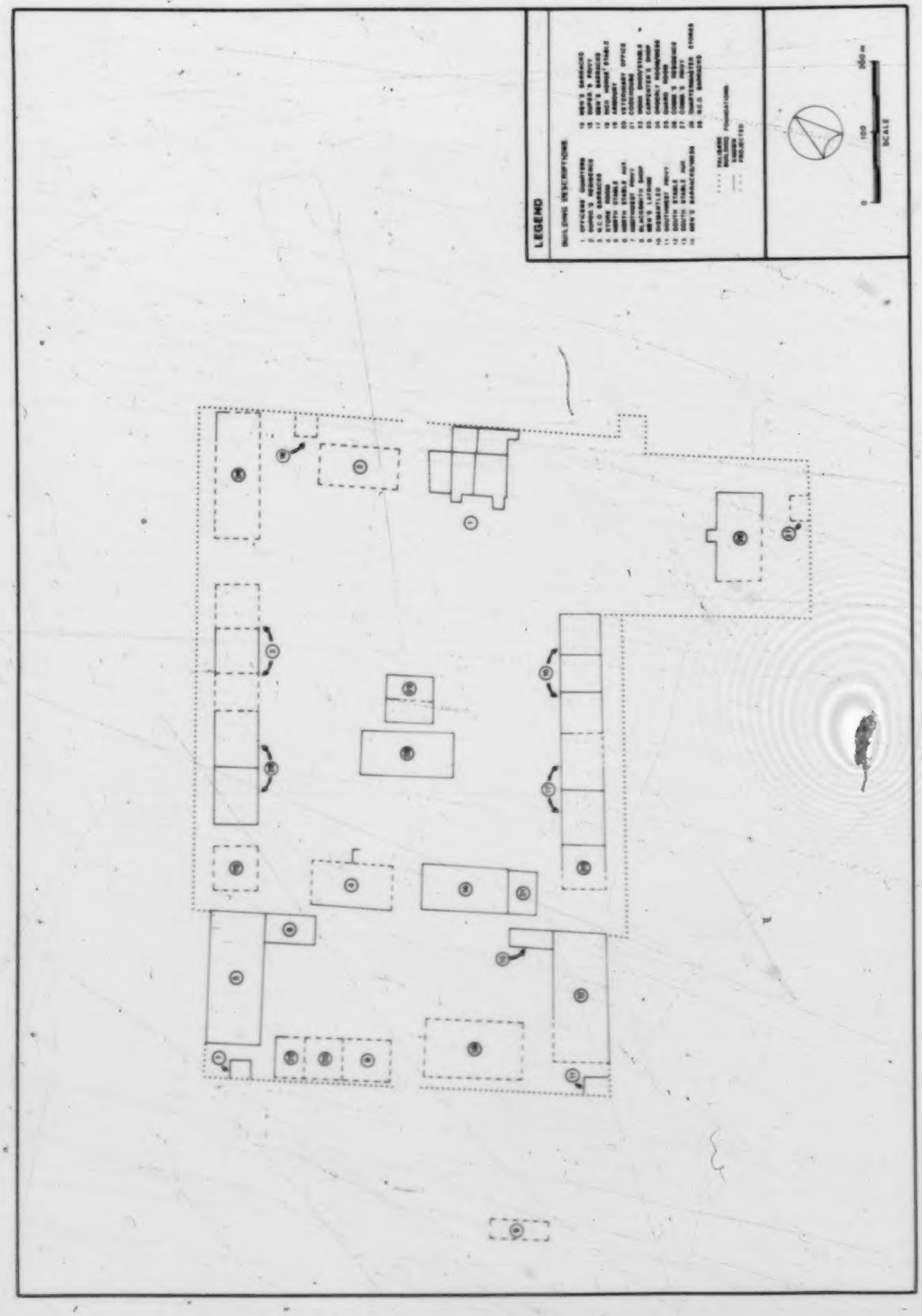
LEGEND
BUILDING DESCRIPTIONS
SCALE
0
100
200 m

Figure 9. Ground plan of Fort Walsh, 1878.

fever, known locally as "mountain fever". The illness regularly swelled the sick lists, and was frequently blamed on unsanitary conditions at the post. In one particular outbreak, Surgeon Kittson traced the source to "a noxious cesspool" that was found:

> ...in the blind alley extending the whole length of 'E' division huts, where the sergeants' mess cook was in the habit of throwing slops, vegetable garbage, etc. The first victims of typho-miasmatic fever were the sergeants' mess waiter and an 'E' Division man in the adjoining building, who complained that a bad smell came from beneath the floor in the corner where his bunk stood [Canada. R.N.W.M.P. 1973a, Report 1879:29].

As a result, a number of measures were undertaken in 1879 to eradicate the disease; and, at the same time, eliminate some of the major sources of discomfort. The barracks were routinely whitewashed and fumigated with burning sulphur, the floors raised and allowed to dry, proper ventilation introduced, and trestle beds installed. By far the greatest efforts were directed at relieving some of the crowded conditions at the post and at providing better standards of housing.

For this reason, the palisades were extended to the southwest and to the north, adding more than 3,000 square metres to the area enclosed within the compound (Figure 10). The extra space was then used to accommodate a new enlisted men's barracks (building 41, Figure 11), two new

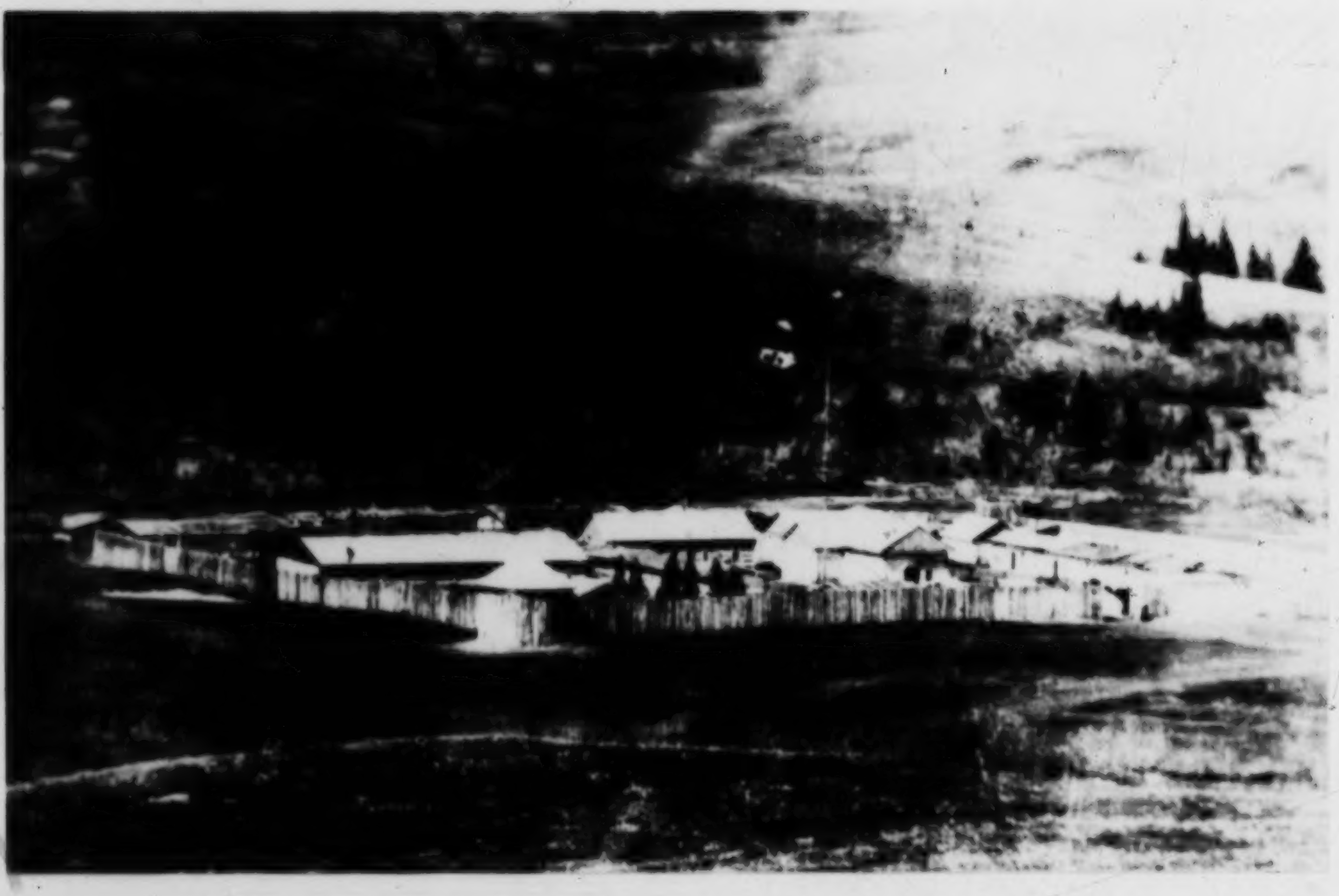

Figure 10. Fort Walsh, ca. 1881-82 (photo credit: Glenbow-Alberta Institute, NA-2446-16).

stables (buildings 40 and 43, Figure 11), a powder magazine (building 42, Figure 11), and two new privies (buildings 30 and 44, Figure 11). At least one new building was also squeezed into an existing area (building 37, Figure 11). Unlike the structures that had preceded them, the stables and powder magazine were constructed with levelled foundations. As well, the barracks was built with a raised floor and a shingled roof in an attempt to deal with some of the dampness that had always been a constant complaint with the earlier quarters. During this same period some of the "scrappy" look of the post was eliminated with the removal of several of the older, more dilapidated buildings, including three of the older privies and enlisted men's latrine (buildings 7, 11, 27, and 9, Figure 9) and the southern stable (building 12, Figure 9).

Other renovations at this time emphasized the segregation of certain domestic activities to special areas, especially those required for preparing food, maintaining personal hygiene, and for recreation. In some cases this renovation required the construction of entirely new facilities, such as the enlisted men's latrine; well; hospital; library; a combined bath house/privy for the commissioner; and a set of kitchens for the N.C.O.'s, officers, and commissioner (buildings 33-36, 38, 39, Figure 11). In other instances, new specialized functions were delegated to structures that

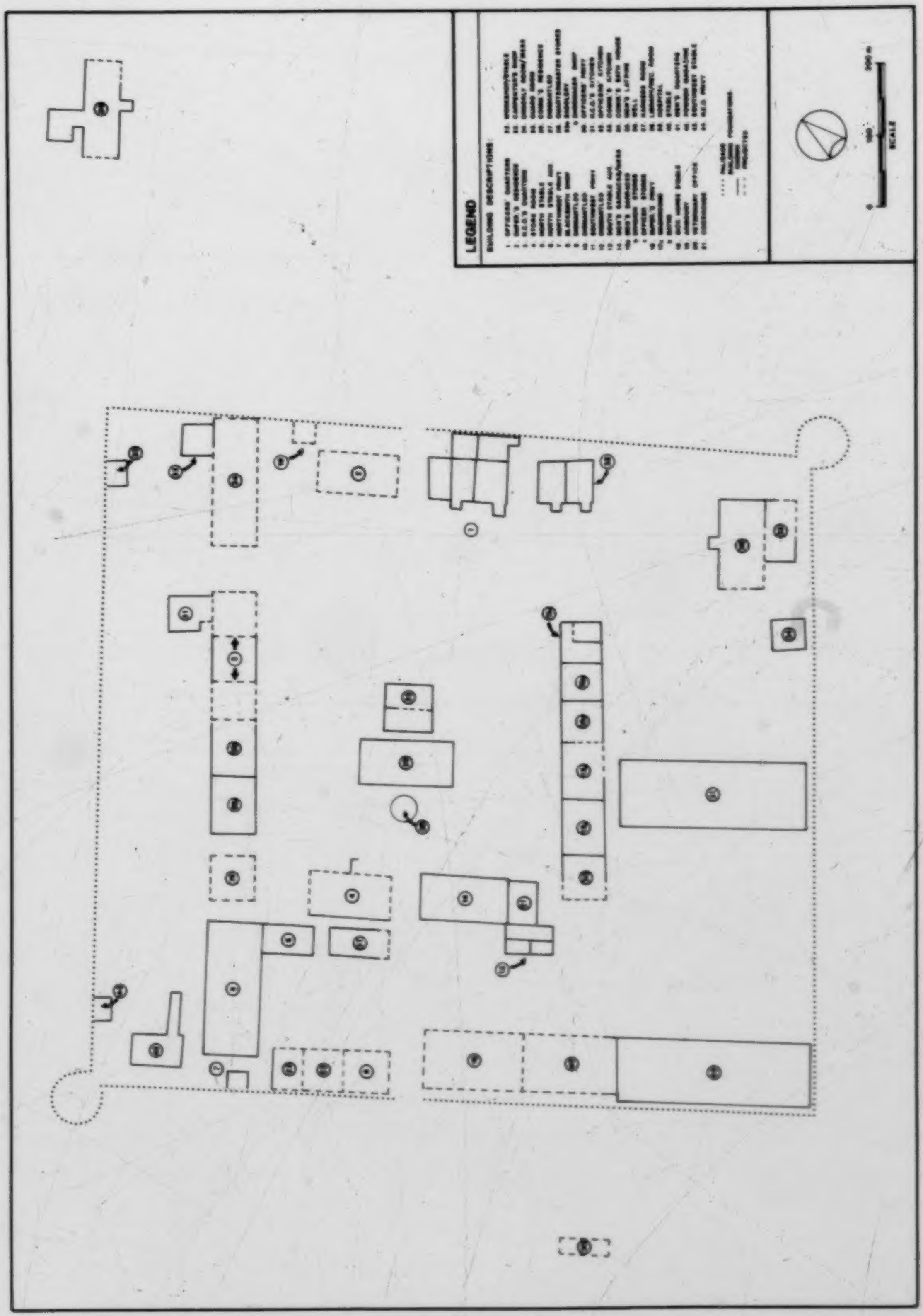
LEGEND
BUILDING DESCRIPTIONS
SCALE

Figure 11. Ground plan of Fort Walsh, 1883.

had previously served more general purposes; for example, three of the older barracks (buildings 15, 17, and 29, Figure 9) were converted to storage rooms for officers and divisional supplies, shops for a saddlery and armoury, as well as baths and washrooms.

Social Distance and Boundary Maintenance

Despite attempts by the N.W.M.P. to improve their environment, physical disorders among personnel persisted throughout much of the fort's history. Indeed, the N.W.M.P. community developed quite a reputation as an unhealthy place. The source and cause of the viral fever which annually plagued the force consistently eluded the medical officers. However, it is clear from a reading of their annual health reports that outside influences were thought to play a major contribution to the problem. Whether civilian sources constituted a significant breeding ground for the disease cannot be properly assessed from the documentation. Under the communications model the distinction is not important. But it is important that the Mounted Police at least perceived a causal relationship between the frontier community and the filth that was thought a fundamental cause of the sickness.

This attitude is particularly prevalent in one medical study in which Surgeon Kennedy traced an outbreak of mountain fever to a member of the force who had been "outside" the post on a three month furlough prior to re-engaging (Canada. R.N.W.M.P. 1973a, Report 1879:30). In another incident, the medical officer noticed that the men who had been on guard duty were frequently the same ones who reported on sick parade the following day (Canada. R.N.W.M.P. 1973a, Report 1881:29). Earlier the surgeon suggested that it was not so much the fault of the police force that the guard room was unhealthy as it was the "outsiders" who were incarcerated in it and with whom personnel were forced into contact:

> I would respectfully call your attention to that questionable guard-room at Fort Walsh, which services the triple purpose of guard-room, jail and lunatic asylum. The whole structure measures about 16 x 12 [sic] on the inside. Half of the space is taken up with three cells, in which I have seen as many as five and six prisoners incarcerated, and the other half is usually occupied by a guard of four to six men....Within the last two years we have had the care of two lunatics. The first was an old squaw, somewhat inclined to cannibalism; she was completely maniacal and very difficult to manage. Her filthy habits infected the guard-room to such an extent that she had to be removed to a small building by herself... [Canada. R.N.W.M.P. 1973a; Report 1879:31].

The implication is obvious; bad health was a problem for the force because of outside influences. An improvement in their situation could only be ensured if they enforced strict sanitary practices by keeping the local frontier population separate from members of the force.

This, of course, does not necessarily mean that the police ignored their own infractions with regard to sanitary practices; but it does seem that, whenever possible, the force was quick to explain some of their problems in terms that clearly implicated "outside" sources. In examples where the health problems of the force are mentioned, these are inevitably contrasted with other frontier communities where dirt, filth, and pollution are portrayed as being far more prevalent.

> Towards spring a mild form of remittent fever made its appearance...It was the avant courier of an epidemic which made itself felt disastrously throughout the Cypress Hills... This fever, as the season advanced, presented both remittent and intermittent types, and in the worst cases, typhoid symptoms supervened, when death, in many outside the fort, closed a prolonged and painful scene. I am happy to be able to state that though many among us were seriously ill, we were spared the grievous necessity of registering a death. Many of the United States military posts, situated along the foot hills of the Rockies south of us, are annually visited by this epidemic and many mining camps are abandoned on account of its ravages... Many Half-breeds and Indians died of it, and the infant mortality among these was very high [Canada. R.N.W.M.P. 1973a, Report 1879:27-28].

In the previous chapter, it was indicated that the N.W.M.P. found some fundamental differences to underlie the basic ideological structures behind the development of the American and Canadian frontiers. This difference was translated to the built environment through their selection of a building site for Fort Walsh. It would now appear that a similar contrast was also extended to the immediate frontier groups with whom the police came into daily contact. At this level, the police differentiated themselves on the basis of attitudes towards pollution and disease. Perhaps then the improvements to Fort Walsh were less an attempt to up-grade living standards than they were a reflection of social prejudices. By holding the pioneer synonymous with pollution and filth, the police could justify maintaining minimal contact with frontier society.

The social dichotomies the police perceived to exist between themselves and the frontier community became all the more noticeable in the N.W.M.P.'s attempt to justify the construction of recreational facilities at their major forts. Besides the obvious advantages of withdrawing "the men from the barrack-rooms during their leisure hours, thus relieving them of a great deal of occupation, renewing the air and increasing their wholesomeness", indoor recreation rooms were also thought to be important for their social and moral value (Canada. R.N.W.M.P. 1973b, Report 1882:22). By providing the men with proper facilities, Commissioner

Irvine felt that they would be less inclined to seek their amusement "in the billiard saloons in the villages, where they come in contact with many men of questionable character in a very undesirable manner [and where]...many evil affects will result" (Ibid). One would expect that in a frontier situation, where most forms of entertainment were rather limited, resources would be better utilized by providing as much variety as possible. Instead, the police deliberately chose to provide a service which was already duplicated in the local towns. It would seem the frontiersman was considered "socially dirty"; he was not the type of individual with whom the Victorian gentleman should fraternize in his leisure hours.

Similarly, the site chosen by the N.W.M.P. for their new hospital was also dictated by a perceived need to keep contact between the town and the police to a minimum. Since the Mounted Police had the only medical facility available in the North-West Territories, they would often administer to the health needs of the local community as well as their own personnel. By spatially isolating the hospital between the fort and the town, civilians would be able to use the facility without actually entering the garrison or being involved with members of the force--except perhaps those who had already been admitted under the care of the physician.

Summary and Discussion

This explanation concerning the social origins behind the development of Fort Walsh suggests the N.W.M.P. perceived a distinct dichotomy between themselves and the frontier community. More importantly, it suggests the built environment was subconsciously manipulated to project cultural ideologies concerning this relationship. Although little is known about the social composition of the pioneer community at Fort Walsh, McCullough's (1977:78-184) analysis of the officer and enlisted ranks recruited by the Mounted Police at least suggests their dichotomous relationship with the frontiersman had some basis in the "social categories of men" (Douglas 1973:12). Indeed, the social composition of the force was by no means representative of Canada's population profile. The N.W.M.P. primarily chose its candidates from a Protestant, urban Ontario background. This practice stood at variance to the rural, Roman-Catholic make-up of the Dominion recorded in the 1881 census (Figures 12, 13, and 14). Even in Quebec, 40 percent of the officer and enlisted ranks recruited by the force were from the Protestant minority sections of provincial society (see Tables 1 and 2). The police also chose fewer than four percent of its enlisted ranks from western Canada, which of course, was the region under its authority.

The selection of personnel from eastern urban centres appears, in many instances, to have defied logical recruit-

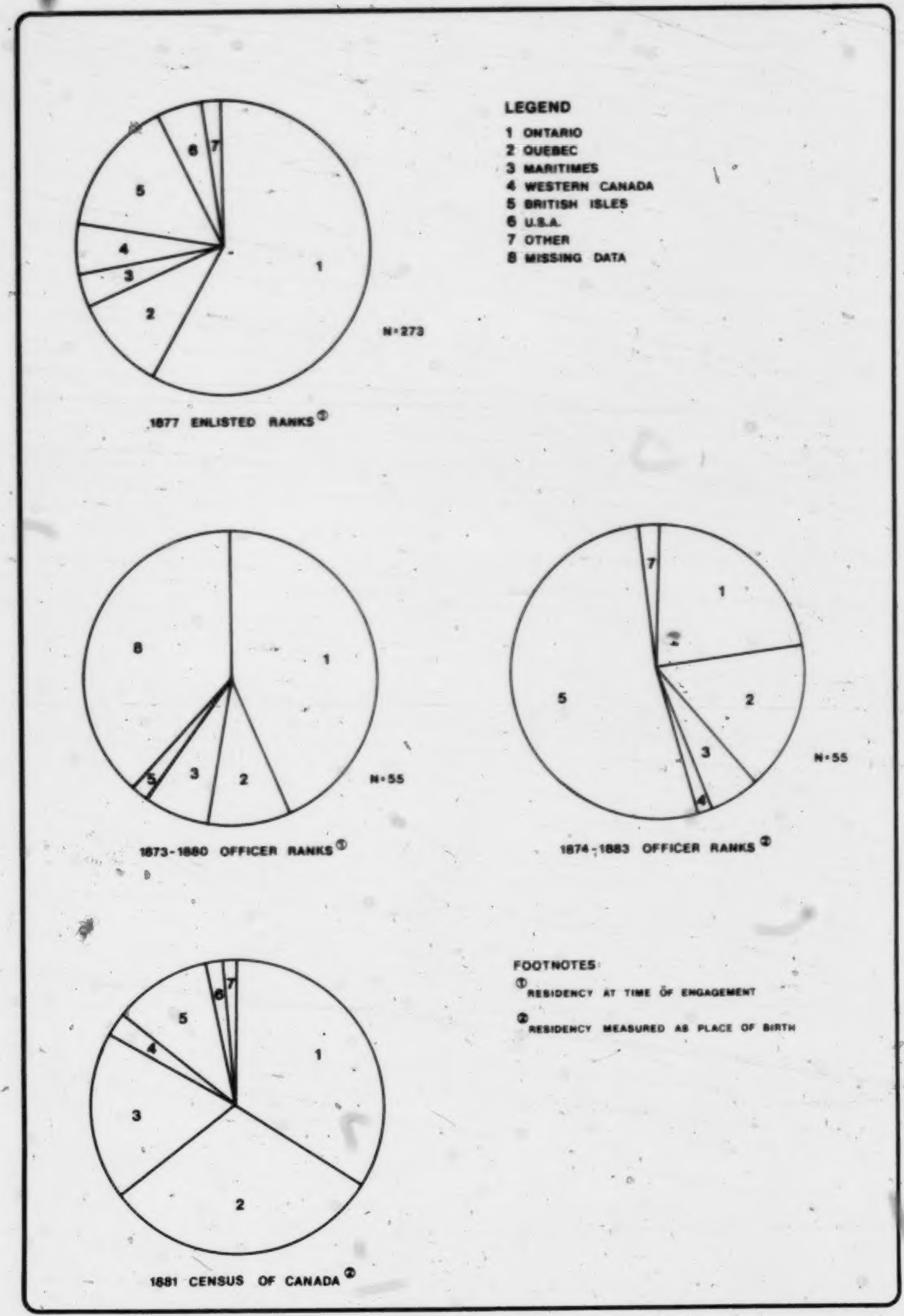

Figure 12. Residences of the N.W.M.P. prior to enlistment as compared to the population profile of Canada.

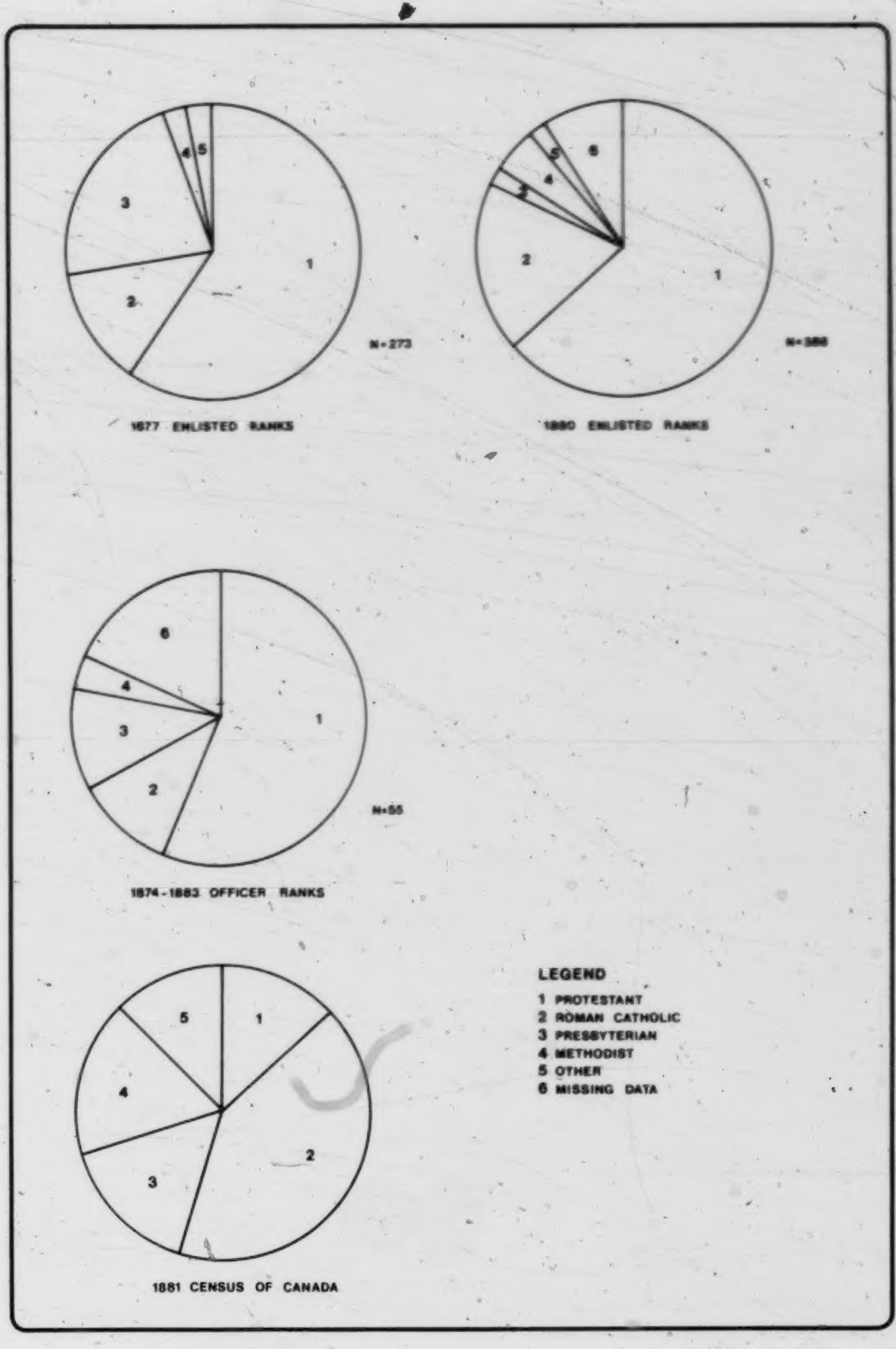

Figure 13. Religious affiliation of the N.W.M.P. as compared to the Canadian population.

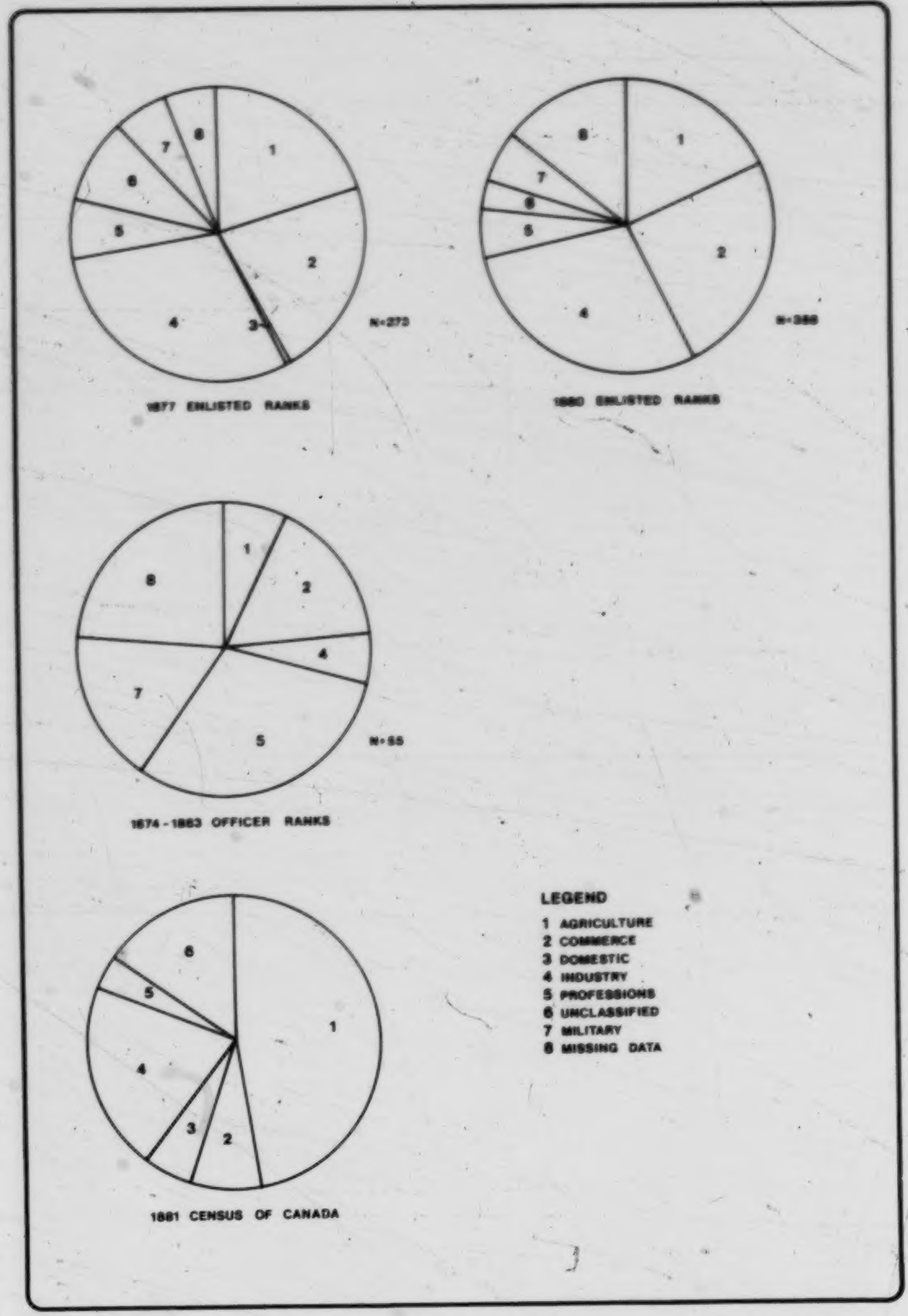

Figure 14. Employment background of members of the N.W.M.P. as compared to the Canadian population.

TABLE 1

Crosstabulation of Religious Affiliation by Residence of Next of Kin, Officer Ranks, 1873-1883

Count Row Pct Col Pct Tot Pct	Religious Affiliation					
	Prostestant	Catholic	Presbyterian	Methodist	Other	Row Total
Residence of Kin:						
Ontario	4 33.3 12.9 8.9	1 8.3 16.7 2.2	6 50.0 100.0 13.3	1 8.3 50.0 2.2	0	12 26.7
Quebec	3 42.9 9.7 6.7	4 57.1 66.7 8.9	0	0	0	7 15.6
Maritime Provinces	2 50.0 3.2 2.2	0	0	1 50.0 50.0 2.2	0	3 6.7
Western Canada	1 100.0 3.2 2.2	0	0	0	0	1 3.2
British Isles	16 94.1 51.6 35.6	1 5.9 16.7 2.2	0	0	0	17 37.8
U.S.A.	1 100.0 3.2 2.2	0	0	0	0	1 2.2
Other	4 100.0 12. 8.9	0	0	0	0	4 8.9
Column Total	31 68.9	6 13.3	6 13.3	2 4.4	0	45

TABLE 2

Crosstabulation of Religious Affiliation by Residence of Next of Kin, Enlisted Ranks, 1880

Count Row Pct Col Pct Tot Pct	Religious Affiliation Protestant	Catholic	Presbyterian	Methodist	Other	Row Total
Residence of Kin:						
Ontario	129 79.1 53.2 38.1	18 11.0 25.4 5.3	4 2.5	6 3.7	6 3.7 85.7 1.7	163 48.1
Quebec	29 41.4 12.0 8.6	37 52.9 52.1 10.9	0	4 5.7 26.7 1.2	0	70 20.6
Maritime Provinces	20 76.9 8.3 5.9	3 11.5 4.2 .8	0	2 7.7 13.3 .6	1 3.8 14.3 .3	26 7.7
Western Canada	8 72.7 3.3 2.4	2 18.2 2.8 .6	0	1 9.1 6.7 .3	0	11 3.2
British Isles	46 85.2 19.1 13.6	7 13.0 9.9 2.1	0	1 1.8 6.7 .3	0	54 15.9
U.S.A.	7 58.3 2.9 2.1	3 25.0 4.2 .9	1 8.3 20.0 .3	1 8.3 6.7 .3	0	12 3.5
Other	2 66.7 .8 .6	1 33.3 1.4 .3	0	0	0	3 .9
Column Total	241 71.1	71 20.9	5 1.5	15 4.4	7 2.1	339

ment practices as specifically outlined in the N.W.M.P. Act. Some individuals, such as the cook at Fort Walsh, suffered from venereal disease, and at least another half dozen men suffered from asthma; nonetheless, all found their way into the force as "able-bodied men of thoroughly sound constitution". Similarly, many of the first contingent were unable to ride although this asset was clearly stipulated as a prerequisite to recruitment (see Goldring 1979a).

Morgan (1973) interprets these trends as evidence of the state's tendency to bestow positions of employment as political favours (for example, see Dempsey's (1975) account of Brisebois). Naturally these men were the people who best identified with the aspirations of the central government and the Ontario expansionists, and would be able to establish themselves as social leaders in the growing settlements (Macleod 1976a:106). What better methods are there for the state to transmit the type of society it wished to see created on the frontier than to send the very people from the segment of society which it want the West to emulate? Since the state was subconsciously selective of those it was to send into the North-West as its major representatives, it appears to have been partially aware of the importance of such acculturation processes on the establishment of a new frontier society.

Earlier it was suggested that the position of the N.W.M.P. in frontier society was largely contingent on the visibility of their material formations and on the extent to which these manifestations could be contrasted with their American counterpart. In this connection, it was shown that the site selected by the Mounted Police for their Cypress Hills garrison was particularly important. It not only guaranteed high visibility amongst local frontier target groups, but it also represented an initial statement that emphasized an underlying contrast between American and Canadian systems of law enforcement. By now it should also be evident that the social distinctions the police perceived to exist between themselves and the frontier community were to some extent also projected by the built environment. It would appear that the attempt was to minimize social contact by creating bounded communities between socially dichotomous groups. Such measures, when accompanied by material manifestations, provided the state with an indirect means for implanting Canadian concepts of social order on the frontier. What still remains unanswered is the extent to which class consciousness worked as a perceptual framework to order and mould the more discrete visual units in the three-dimensional form. As well, what does this formation suggest in regard to the police's perception of their community? The following chapter will now explore the architectural representations encoded by the N.W.M.P. to underline visibly the conceptual frameworks regarding member/non-member dichotomies.

CHAPTER VI

PUBLIC MANIFESTATIONS OF SOCIAL ORDER

> Symbols are the only means of communication. They are the only means of expressing value; the main instruments of thought, the only regulators of experience [Douglas 1973:60].

Within a few months of its construction, Fort Walsh became the nucleus of a rather unique and intensive settlement system, attesting to its success in establishing itself as a centre of socio-cultural control and authority. Its presence in the Cypress Hills immediately stabilized the region by eliminating the open rivalries caused by the whiskey trade, and effectively prepared the region for the last major onslaught of the robe trade which eventually culminated during the 1878-79 seasons. When the major buffalo herds were all but totally devastated, the town was able to turn to the pay cheques of the police force and the bids for service contracts. This new form of revenue for the merchants of the Cypress Hills offset losses incurred through a decline in the fur trade and provided the economic basis for the development of Fort Walsh into one of the largest frontier commercial centres of the period on the Canadian Plains (Figure 15).

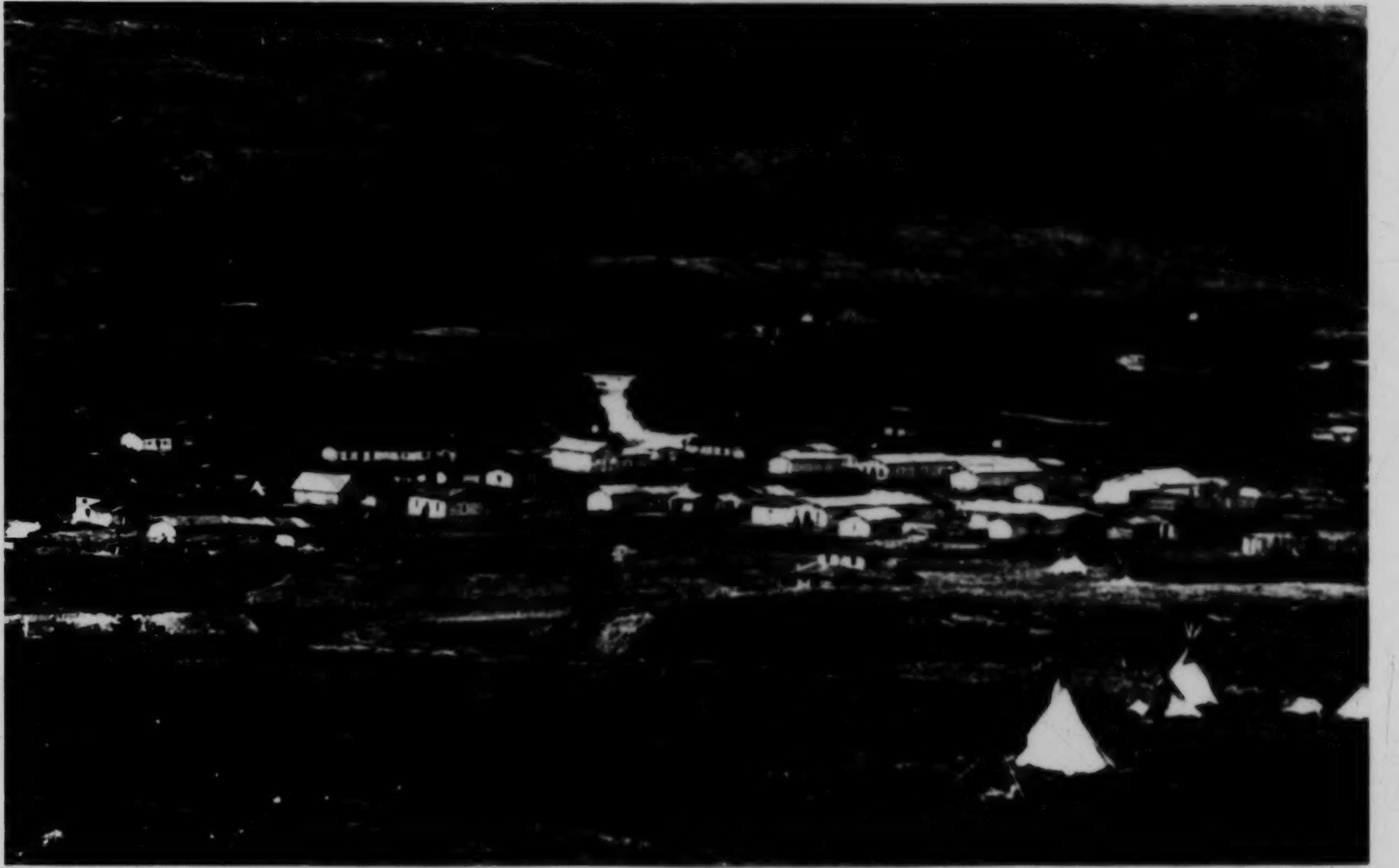

Figure 15. The trading town of Fort Walsh, ca. 1878
(photo credit: Glenbow-Alberta Archives, NA 2003-52).

Despite their obvious socio-economic dependency, the N.W.M.P. and the civilian communities at Fort Walsh maintained a degree of spatial autonomy (Figure 5). They were both located along the east bank of Battle Creek on a broad grassy terrace which was intersected by a small intermittent stream. This natural phenomenon easily became a reference point which delimited a boundary between the two communities. The N.W.M.P. post and its ancillary structures, including a hay corral, hospital, parade ground, and residences for married personnel, were clustered south of the boundary; the civilian community was located to the north. Interestingly, this spatial dichotomy was also replicated in microcosmic form outside the immediate environs of the frontier community in the method the N.W.M.P. and the local town buried their dead. Both groups maintained their own cemeteries; both were located in the hills bordering the east side of Battle Creek Coulee. The police cemetery overlooked the main entrance to the fort, and the civilian cemetery was situated even higher in the hills to overlook the entire coulee. Spatial duality represented in the two cemeteries suggests that the same structural principles which were at work among the living may be detected among the dead (cf. Gilmore 1977:445).

In its frontier setting, Fort Walsh presented a degree of order and permanency that was not common in the hinterland (Figure 16). Its stalwart white buildings and palisade

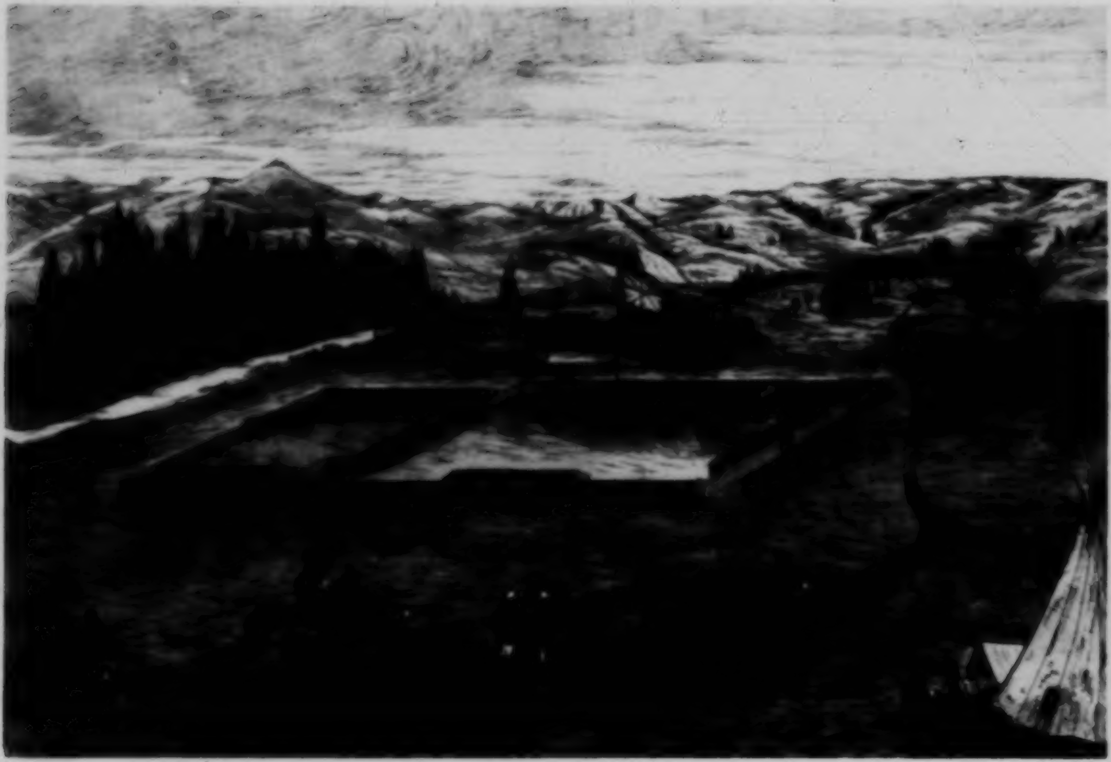

Figure 16. A perspective sketch of Fort Walsh published in the Canadian Illustrated News, July 1, 1876, prior to first renovations.

stood in direct contrast to the native skin lodges and log quarters of the hivernant traders and Fort Benton merchants. Until the arrival of the police, the typical buildings which were generally put up by the Cypress Hills frontiersman were nothing more than log shanties. The structures were not intended as permanent quarters--they were only used as places to winter--and were often burnt down when their residents left in the following spring (see Canada. N.W.M.P. 1973a, Report 1874:21,47). Almost without exception, contemporary accounts emphasize the strong visual impact the contrast presented; for example, one American newspaper correspondent commented:

> Suddenly Fort Walsh came into view, lying low in a charming valley. No more romantic spot no wilder scene could impress a traveller at the end of a monotonous journey than the one that met our eyes. The fort, built by Major Walsh only two years ago, is notwithstanding its excellence of a form and aspect so quaint and old as to remind one of the stories of the early Kentucky stockades. It is in fact an irregular stockade of upright logs enclosing all the offices and buildings, which are likewise built of logs, necessary for the accommodation of a garrison. Whitewashed on every part except the roof, the fort nestles between the surrounding heights. A scraggly but picturesque little settlement adjoins it [as cited in Turner 1950:364; underlining added].

It is significant that the above contemporary account of the post should make special mention of the palisade, since of all the structural components at Fort Walsh, it was probably the most visible to the public. In combination, the palisades and bastions were both monumental in their scope and design, and frontal in their emphasis and orientation on the main entrance (Cohen, 1982, makes this same observation in respect to Northwest Coast Indian villages). These attributes had the effect of producing a visual façade which provided frontier target groups with a lasting impression of the presence of the N.W.M.P. in Western Canada (Figure 17).

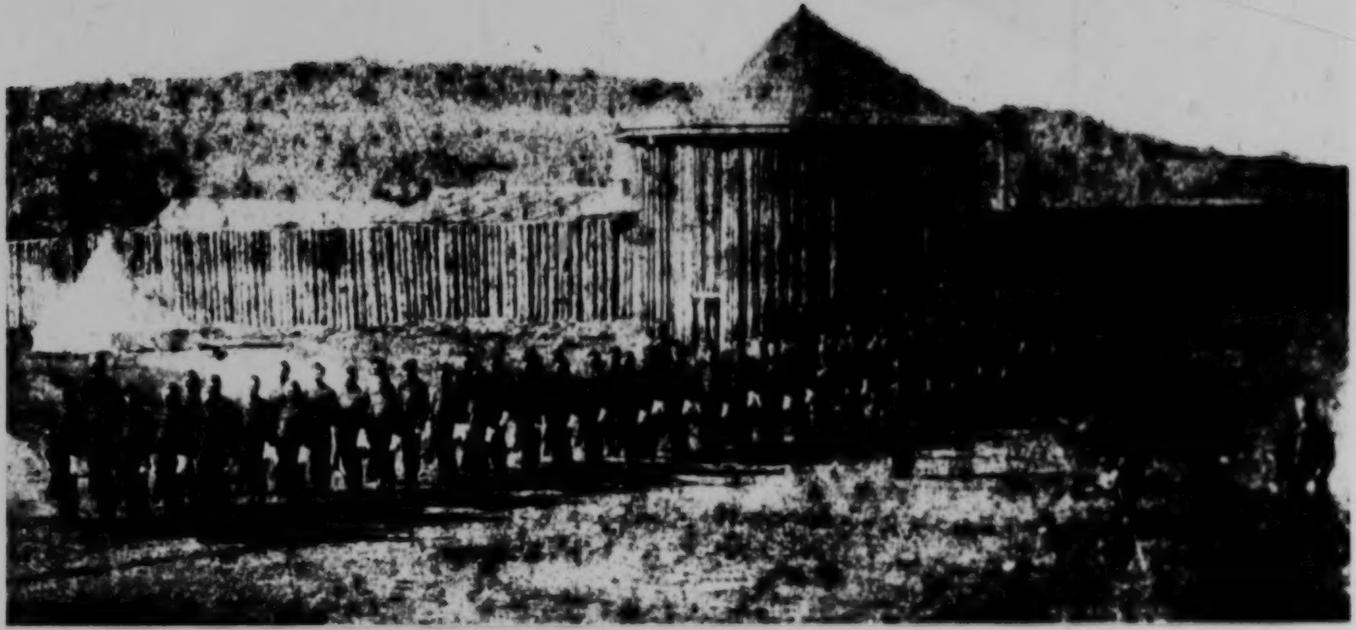

Figure 17. The southeastern bastion and palisades at Fort Walsh. One of the bastion gun ports can be seen in the background. (photo credit: Provincial Archives of Alberta, E. Brown Collection, No. B-2239).

This aspect of the palisade is particularly noticeable in Fitzpatrick's (1921) description of the fort. A comment published in his memoirs more than 40 years after his tour of duty in the N.W.M.P., indicates that it was the palisade more than any other aspect of the fort which seems to have retained its visual impact:

> Fort Walsh was situated in a valley about half a mile in width, through which a small river ran. The fort itself was quadrangular, with a stockade of trees closely put together, about twelve feet in height with one bastion. Later this was enlarged by the addition of another, making two bastions, one on the southeast corner and one on the northwest corner.
>
> The length of each side of the fort was about three hundred feet. There was a large log gate at the front and one at the back, the front one having one small opening in it, just large enough to admit one person passing through at a time. These gates were opened at reveille and closed at sundown, the smaller opening remaining open until ten P.M. [Fitzpatrick 1921:21].

Despite all the renovations which were undertaken at the N.W.M.P. fort throughout its eight year occupation, it was the public façade--the palisades, bastions, and gates--which was left relatively unchanged. Given the potentially troublesome situation the police saw developing with the arrival of the American Sioux, it would initially seem an incongruous reaction on the part of the police not to have upgraded the defensive attributes of the post. Other than increasing the size of the garrison and introducing four light artillery pieces (see Canada. R.N.W.M.P. 1973a, Report 1976:21), the post itself was not significantly altered from a military perspective. For example, even though artillery pieces were brought to the fort, provisions were not made by which the guns could be fired from the protection of the enclosure for another three years when new bastions were built in 1879 which featured ground level gun ports (Figure 17).

The palisade itself could not have been a serious deterrant in the event of an emergency. As determined from archaeological excavations, the wall merely consisted of a single row of irregular-size posts which had been placed upright in a footing trench. The posts varied considerably in size, ranging from 0.10 m to 0.40 m in diameter; and were unevenly spaced from 0.15 m to 0.30 m apart. Although the upper sections of the wall were partially secured by a single horizontal brace or riband, no attempts were made to support the base. The footing trench which held the posts was dug 0.30 m to 0.70 m deep, and appears to have been backfilled without the benefit of rocks or any other stabilizing materials. As well, the acidic soil in the trench usually acted on the untreated logs to weaken them substantially within just a few years. The result was a palisade which, while perhaps impressive in appearance, was nonetheless unstable. This fact was clearly demonstrated on at least one occasion when an entire section collapsed during a wind storm.

The palisade was also built without the benefit of a firing platform, catwalk, or gunports of any description. Although the wall could have served as a minor deterrent during a time of crisis--by physically inhibiting an aggressor from direct access to the post--the structure was virtually indefensible since there were few means by which the walls could be protected with covering fire.

The small square bastion which was located at the southeastern corner of Fort Walsh, as originally constructed in 1875, probably held an upper platform for small arms fire; and, until the extension was built for the commissioner's residence, could have at least provided small arms covering fire for the southern and eastern palisade walls (Figure 7). With the modifications in the layout of the fort in late 1877, however, the bastion could not have been used to defend the southern wall (Figures 8 and 9). It would appear that defensive strategies were not taken very seriously by the N.W.M.P. Although the basic structure of a defense system was in place, it would not have been very effective.

In a letter to the comptroller of the force, Commissioner Irvine noticed this deficiency; and, in the course of general renovations which were being undertaken in 1979, proposed to alter the layout of the palisade so as to make the fort more square-shaped (P.A.C. RG 18, vol. 2232, pp 380-382, Irvine to White, 18 May 1879; as cited in

McCullough 1976:157-159). With two new circular bastions at opposite corners, all four walls could theoretically be protected (Figure 10). The new bastions were not built with an upper firing platform; but, instead, were provided with ground level gun ports (Figure 17) which were large enough to allow use of the artillery pieces from inside.

The new bastions, however, still do not appear to have provided an effective defensive barrier. Although they may have been somewhat useful in the event of an attack, the bastions do not seem to have been designed strictly on the basis of satisfying a defense requirement. Indeed, as determined from archaeological investigations, both structures were built with a shingled roof and were used for oat storage (Sciscenti et al 1976:43-54, Murray and Sciscenti 1977: 5-18). In the event of an emergency, it would have been necessary to empty the bastions of their oats before they could have been used to defend the fort, as was the case in 1882 when starving Indian bands threatened to attack and seize the government stores. If the N.W.M.P. had required the bastions exclusively for defensive purposes, the oats could have been stored at some other location. At the time the bastions were built, the northern and southern palisades had been extended to provide an additional 3,000 square meters to the enclosure (compare Figures 9 and 11). This expansion would have provided the police with more than enough space to build several other structures that could have been used for oat storage. Instead, the police chose to use the bastions for such purposes because the protection of the fort was never really perceived to be a problem. Surely, if defense was a major consideration, the N.W.M.P. would not have located their post in the middle of Battle Creek Coulee where it was vulnerable to small arms fire from the surrounding hills.

The secondary importance of defense considerations does not appear to have been unique to Fort Walsh; but was, in fact, indicative of at least one other major post built by the N.W.M.P. during their first decade on the frontier, at Battleford, Saskatchewan. In this second example, the palisade consisted of little more than an elaborate fence which was constructed from irregular-sized poplar poles set in a shallow footing trench at relatively wide intervals (see Figure 18). Once again, the Battleford palisade would have provided the police with minimal defensive support in the event of trouble. However, this requirement does not seem to have been as important as the need for keeping order and control over movements within the compound and in separating the police barracks from local frontier groups. Certainly, this intention was eloquently expressed by Superintendent James Walker himself in his account justifying the need for a palisade:

> I have also to report that when the large bands of Indians were here, last spring, they were continually in and about the barracks. Sometimes as many

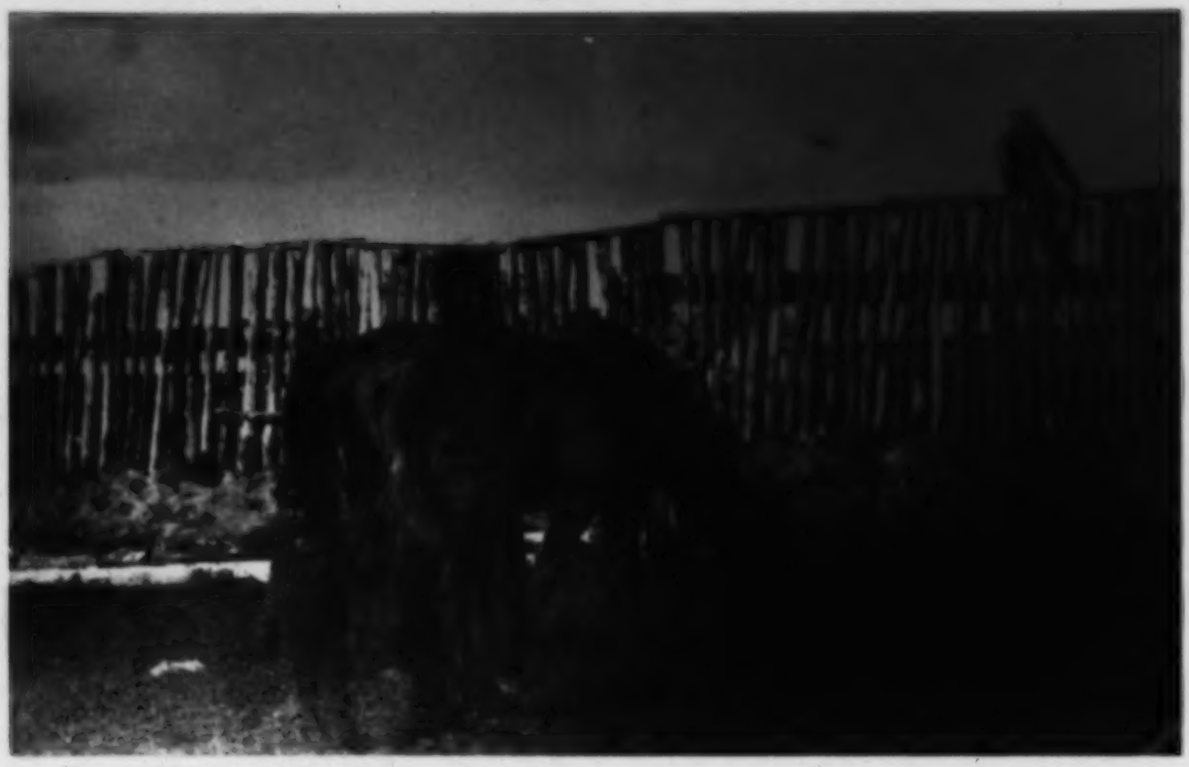

Figure 18. A view of the palisade at Battleford, Saskatchewan

> as a hundred at a time were wandering about the buildings, smoking in the vicinity of the stables and hay-yard, to the great risk of the whole quarters; and as we had no stockade to keep them out, we had to keep a constant watch on them. Taking this into consideration, and also the many alarming rumours we were receiving daily of Indian troubles, I considered it advisable, for the protection of the buildings and stores, to proceed at once to the building of a stockade...[Canada. R.N.W.M.P. 1973a; Report 1879:21-26].

The inadequacy of the palisade as a structure for the defense of Battleford was apparent even to the N.W.M.P. themselves. With the outbreak of hostilities during the 1885 insurrection, the police evidently considered the palisade to be next to useless in its existing form since considerable effort went into an immediate emergency retrofitting. Such measures included the addition of improvised open gun pits and an interior breast work, all of which were hurriedly added to the post with the help of local civilians (Hildebrandt 1978:99-109).

It is argued that the N.W.M.P. did not consider defense important because the police did not expect to find themselves in a situation where an armed confrontation would be required. Armed violence was thought to be a phenomena of the American frontier, and was not a part of their British heritage. A well-defended post would have stood in direct contrast with their understanding of themselves as a peace-loving people who would be acting only in the best interest of all the frontier groups.

> I explained to them [a group of Indians Superintendent Walsh met in the Cypress Hills] that we were British sent here by our Great White Mother for the protection of all good people, White man and Red man alike, to stop whiskey traders from coming into our country and trading liquor to Indians, robbing them of their horses, robes, and skins, to stop war parties, murder, and horse stealing, to have peace all over the country that white man or Indian could bed down to sleep with-

> out fear of being murdered before morning, that it would be the greatest blessing they ever knew when that time arrived...[Walsh to Richardson, 28 August 1875, R.C.M.P.Records, vol. 4, 1875; as cited in McLeod 1969:29].

On this note, it is interesting that, with the passing of the 1885 insurrection and the completion of the Canadian Pacific Railway across the continent, the five major posts which had been built by the police during their initial occupation of the Prairies were either abandoned and rebuilt at new locations--as in the case of Fort Walsh--or they were entirely renovated--as at Battleford, Macleod, and Calgary. In either situation, the reconstruction programme undertaken by the police saw the elimination of the older log buildings in favour of frame, board, and stucco structures; and the complete removal of the palisades. Although space is not adequate to explore some of these later architectural manifestations, it should probably be pointed out that the dismantlement of the palisades did not necessarily mean that the ideological structures which had initially led to their construction had also undergone changes. As evident from the passage cited below, the police still sought formations which encoded physical and psychological barriers between themselves and the frontier community. In this example from Battleford, it is only the material entity which has changed:

> I have the honor to draw your attention to the Indian Dept. Storehouse in the Barracks at

> Battleford, and to the great inconvenience to the N.W.M.Police, caused by all sorts of people freighters, Indians, squaws and others being at all times of the day inside the Barracks, rendering it quite impossible to either keep the square tidy or to maintain order in the post, to remedy this I would suggest that your Dept. construct a fence to enclose the building and sufficient land for your purposes, and erect a gate on the outside of the police fence, the key of which could be kept by the Indian Dept. officials. This arrangement could not interfere with your Dept. and would be a great convenience to the Police [P.A.C., RG18, vol. 1165, File 28, R.C.M.P. collection, November 3, 1890].

A well-defended fortress was not in keeping with the type of frontier the N.W.M.P. expected to see developed on the northern plains, nor was it in keeping with the role they saw themselves playing in the new society. The palisade and bastions at Fort Walsh were really little more than a symbolic representation of something much more substantial and formidable. They were monumental in form and persuasive in design; they were meant as a reminder to everyone that Fort Walsh constituted the undisputed centre of authority in the Cypress Hills without actually imposing a military presence.

This "garrison mentality" essentially represented "a very conservative reaction to the new environment" that the western frontier presented the Mounted Police (Thomas and Clarke 1979:84). In the following chapter it will be shown that the palisades and bastions offered the police a defined space in which they could create a reasonably secure and familiar landscape which reflected their own social needs. In this sense, the public facade was also a psychological barrier behind which the customs and manners of a different society could be "transferred virtually intact from some other environment and are little influenced by the new surroundings" (Ibid).

Earlier, it was indicated that symbolic formations represented in the built environment not only have to be visible to their target group to be an effective means of communication but they also have to create an enduring image in the viewer's mind. The N.W.M.P. set out to accomplish this task by symbolically encoding social distance between themselves and the frontier community and by visually presenting their built environment as a permanent and well ordered national monument. When conceptualized in the context of the communications model, the visual impact created by the architectural representations encoded at Fort Walsh was not a curious anomaly, but instead, was integral to N.W.M.P. designs to present themselves as representatives of Eastern power and authority and as representatives of the new socio-cultural order.

Summary and Discussion

For the N.W.M.P. the frontier landscape was synonymous with isolation and hostility, not just because of the huge and formidable physical setting which separated them from their main source of cultural inspiration. It was potentially troublesome because of the type of people with whom they were to come into contact. "This frontier was assumed to be lawless not because of its physical or economic characteristics, but because it was peopled initially by the lower social groups" (Macleod 1976b:88). The Mounted Police sought to overcome the potential degradation of such a situation by visually contrasting themselves with their American counterpart and with the local frontier community. This contrast helped to establish an elite position for the force in Western Canadian society, and ultimately served to justify the Canadian federal presence in the North-West Territories.It has been argued that this contrast was physically encoded and projected on the spatial and material manifestations of the built environment.

The palisades, bastions, and gates were found to be a particularly important means by which the N.W.M.P. could physically create a bounded community which emphasized a member/non-member dichotomy. Being the intrusive presence amongst a variety of indigenous groups, the position of the Mounted Police on the frontier was tenuous. As an instrument of a self consciously superior society, other social groups would be seen as a threat to the ideals of the N.W.M.P. and group purity would have to be protected from social pollution originating from outside sources. In this way, the public façade at Fort Walsh visually projected the ideological structures which underlay the internal categories and rules regulating their sense of order. "Abstract concepts [and boundaries] are always hard to remember, unless they take on some physical appearance "(Douglas and Isherwood 1980:4).

The historian John Peter Turner (1950:213) finds the Fort Walsh palisade to be a carry-over of a long western frontier tradition which originated several centuries earlier with the Spanish jacal. While this may be true, explanations based in chronology can really provide no accounting as to why this single material representation was chosen from all the other possible formations available. There can be no doubt that the N.W.M.P. were very much aware of the advantages for themselves that the physical manifestation they chose presented for the realization of their goals. It was the appropriate response to the unique juxtaposition in which they found themselves. In one sense, the public façade was a formal statement announcing the arrival of the police as a formidable force with which the frontier must reckon. It was an imposing monument formally declaring their permanence and intent to establish their own sense of social order. In another light, the same formation was a manifestation of an ideological structure. It was designed to influence through subtle, persuasive methods rather than coercive tactics. At either level, the palisade, gates, and bastions were visible to all members of all social groups; they created an enduring image in the viewer's mind. These two attributes appear to have guaranteed their use as visual summaries in symbolic communication.

CHAPTER VII

UNITY WITHIN DIVERSITY: THE NATURE OF THE N.W.M.P.'S BUILDING DESIGN

> ...order in building expresses ideas symbolically, and the house depicts them vividly for every individual from birth to death. Furthermore, order concerns not just discrete ideas or symbols, but systems; and the system expresses both classification per se, the definition of unity and difference [Cunningham 1973:204].

The study now examines the N.W.M.P.'s fort in an attempt to define the underlying rules and codes by which material formations were perceived and manipulated in internal social relationships within the police force itself. Analysis at this level will be mostly concerned with those representations which relate to internal cognitive structures or categorizations. They will centre primarily on that part of the N.W.M.P.'s community as confined within the palisades. This approach recognizes that not all architectural manifestations at Fort Walsh were broadly visible to all social units. It also acknowledges the palisades, bastions, and gates as an effective physical and visual barrier from unwanted penetration by "outside" frontier groups. The analysis considers the individual building units within the palisade's enclosure in terms of their overall visual presentation. Consequently, the study will focus on patterned variability at two levels.

It will first consider the material formations which constituted the individual components which made up all of the physical parts in a building unit; and, as such, imparted morphological detail on the three-dimensional form. In the next chapter, the study will attempt to define each building according to its community context by considering its spatial relationship to the rest of the settlement. Since the built environment assumes social meaning when it is perceived as representative of a specific social group and "when social meaning plays an influential role in relation to its other functions" (Appleyard 1979:272), analyses will correlate the material and spatial entities to the larger social parameters behind the organization of the N.W.M.P. force.

The Material Entity in Architectural Design

As a "complexly-ordered device" for the transmission of cultural information, the individual material manifestations which constitute an architectural assemblage achieve definition from their contrastive oppositions (Preziosi 1979). On their own, these components lack reference and will appear only as arbitrary formations. Patterned dysjunctions and similarities between components assume meaning only within their systemic context.

Finding the structural components which display visually discriminative attributes and which correlated with social parameters is not as straightforward a procedure as it may initially appear. In order to establish a basis from which patterns in the built environment can be isolated, comparative information is required from all structures for each building component examined. Consequently, because of certain limitations within the archaeological and historical records, not all of the original material formations represented in the built environment will be comparable. As outlined in chapter two, the in situ resource, in combination with archival documents, may guarantee that the structural history of some buildings, such as the commissioner's residence, is reasonably complete and detailed. The majority of buildings, however, are only known in very general terms. For example, site formation processes and variability in the archival record have guaranteed that such visually-accessible components as the size of logs used in building construction and the number of windows or their placement cannot be contrasted because this information is not available on all structures. Similarly, some of the building components on which archaeological investigations have provided detailed information--for instance, the building floors and foundations--will not be useful for this study, since analyses must focus on visual representations.

Nonetheless, it should be possible to examine some of the more common and broadly-visible formations which compose the outer surfaces of a structure. The analysis will restrict comparisons to building walls, roofs, and entrances, especially in terms of the materials and methods used in construction. The discussion will first focus on contrasting style with function. By isolating the different attributes common to each architectural element their patterned dysjunctions can then be correlated to the ideological context. The ultimate objective, of course, is to devise a code or set of rules by which the N.W.M.P. visually classified the meaning and use of their buildings.

Data on the contrastive attributes for the three major building components discussed above are presented on each structure at Fort Walsh in Tables 3, 4, and 5. This information has been compiled from the building descriptions presented in the Appendix. These should be consulted if the reader is interested in a more detailed description of each structure's architectural history. Each component and its associated attributes is discussed below.

1. Walls: Archaeological data confirms that, while all the structures at Fort Walsh were single storey and were built from skinned, unshaped logs, wall construction methods generally conformed to one of two methods. Domestic structures (including residences and messes), stores,

TABLE 3

Typologies in the Material Entity, 1875

Building Unit (Categorized By Function)	Discrete Attributes					
	Walls		Entrance		Roof	
	Hor.	Ver.	Open	Close	Shingle	Board
Residential Buildings						
1. Officer	⊗			⊗		⊗
3. N.C.O.	☒		☒			☒
15. Enlisted Men	☒		☒			☒
Offices/ Administration						
2. Orderly Room	⊗			?		⊗
Kitchens/Messes						
14. Enlisted Men's Mess	☒		☒			☒
Privies						
7. N.W. Privy		X	X			X
11. S.W. Privy		X	X			X
9. Latrine	☒		☒			☒
Stables/Shops						
5. North Stables		X	X			X
12. South Stables		X	X			X
6. North Stable Stores		X	X		?	
13. South Stable Stores		X	X		?	
8. Blacksmith		X	X		?	
Stores						
4. Store Room	X		X			X

○ building used by officer ranks
□ building used by enlisted ranks
? component formation unknown

TABLE 4

Typologies in the Material Entity, 1878

Building Unit (Categorized By Function)	Walls Hor.	 Ver.	Entrance Open	 Close	Roof Shingle	 Board
Residential Buildings						
1. Officer	⊗			⊗		⊗
2. Superintendent	⊗		?			⊗
26. Commissioner	⊗			⊗		⊗
3. N.C.O.	☒		☒			☒
15. Enlisted Men	☒		☒			☒
17. Enlisted Men	☒		☒			☒
29. N.C.O.	☒		☒			☒
Offices/ Administration						
24. Orderly Room	⊗		?			⊗
20. Vets	X		X			X
25. Guardhouse	X		X		X	
Kitchens/Messes						
21. Enlisted Men's Kitchen	☒		☒		☒	
Privies						
7. N.W. Privy		X	X			X
11. S.W. Privy		X	X			X
27. Commissioner		⊗	⊗			⊗
9. Latrine	☒		☒			☒
Stables/Shops						
5. North Stables		X	X			X
12. South Stables		X	X			X
18. Stables		X	X			X
6. North Stable Stores		X	X		X	
13. South Stable Stores		X	X		X	
8. Blacksmith		X	X		?	
22. W. Shop/Stable		X	X		?	
23. Carpenter		X	X		?	
Stores						
4. Store Room	X		?		X	
14. Stores/Barracks	X		X		X	
19. Armoury	X		X		X	
28. Quartermaster	X		X		X	

○ buildings used by officer ranks
☐ buildings used by enlisted ranks
? component formation unknown

TABLE 5

Typologies in the Material Entity, 1881

Building Unit (Categorized By Function)	Discrete Attributes Walls Hor.	 Ver.	 Entrance Open	 Close	 Roof Shingle	 Board
Residential Buildings						
1. Officer	⊗			⊗		⊗
2. Superintendent	⊗		?			⊗
26. Commissioner	⊗			⊗		⊗
3. NCO	☒		☒			☒
41. Enlisted	☒		☒		☒	
Offices/ Administration						
24. Orderly Room	⊗		?			⊗
20. Vets	X		X			X
25. Guardhouse	X		X		X	
39. Hospital	X			X		X
38. Library	X			X		X
Kitchens/Messes						
14. Enlisted Men's Mess	☒		☒		☒	
21. Enlisted Men's Kitchen	☒		☒		☒	
31. NCO	☒		☒		?	
32. Officer	?		?		?	
33. Commissioner	?		?		?	
Privies						
44. NCO Privy		☒	☒			☒
30. Officer Privy		⊗	⊗			⊗
34. Com. Bath House/ Privy	⊗		⊗			⊗
35. Latrine	☒		☒			☒
17. Baths/Washrooms	X		X			X
Stables/Shops						
5. North Stables		X	X			X
6. North Stable Stores		X	X		X	X
13. South Stable Stores		X	X		X	X
18. Sick Horse Stable		X	X			X
40. Stable		X	X			X
43. Stable		X	X			X
37. Harness Room		X	X		X	
29. Armourer/Saddlery	X		X			X
8. Blacksmith		X	X		?	
22. W. Shop/Stable		X	X		?	
23. Carpenter		X	X		?	
Stores						
28. Quartermaster	X		X		X	
15. Officers'/Division	X		X			X
42. Powder Magazine	X			X	X	
4. Oat Stores	X			X	X	
19. Armoury	X		X		X	

○ building used by officer ranks
☐ building used by enlisted ranks
? component formation unknown

administrative structures, and offices were entirely constructed from horizontally-laid logs that were saddle-notched at their four main corners and at interior wall partitions (Figure 19). With possibly the exception of the enlisted men's latrine, all horizontal log walls were chinked with a mixture of clay, sand, and straw; and were whitewashed on their interior and exterior surfaces with a coating of white clay.

Other structures at Fort Walsh, such as privies, stables, stable stores, work shops, and harness room, were of vertical log construction (Figure 20). Logs for these buildings were pre-cut to specific lengths, and were set upright in shallow footing trenches that usually averaged 0.30 m wide and 0.45 m deep. In most cases, the upright log walls also appeared to have been skinned and whitewashed, at least on their exterior surfaces.

The basic contrastive oppositions represented by the two methods of wall construction also distinguished the two building types in terms of their geometric proportions. As summarized in table 6, buildings of vertical log construction exhibited a significantly stronger correlation between their length and width dimensions than horizontal log buildings. In other words, the width of vertical log structures tended to increase proportionately with building length. With horizontal log buildings, on the other hand, building

Figure 19. An example of the horizontal log wall construction method at Fort Walsh, the commissioner's residence, 1877 (credit: Public Archives of Canada, PA-19018A).

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proportions only increased in relation to the length of the log used in building construction. That is, wall lengths were contingent on the number of equal parts in which a log could be cut and still be considered a useful length. For example, they were generally cut into halves or three equal

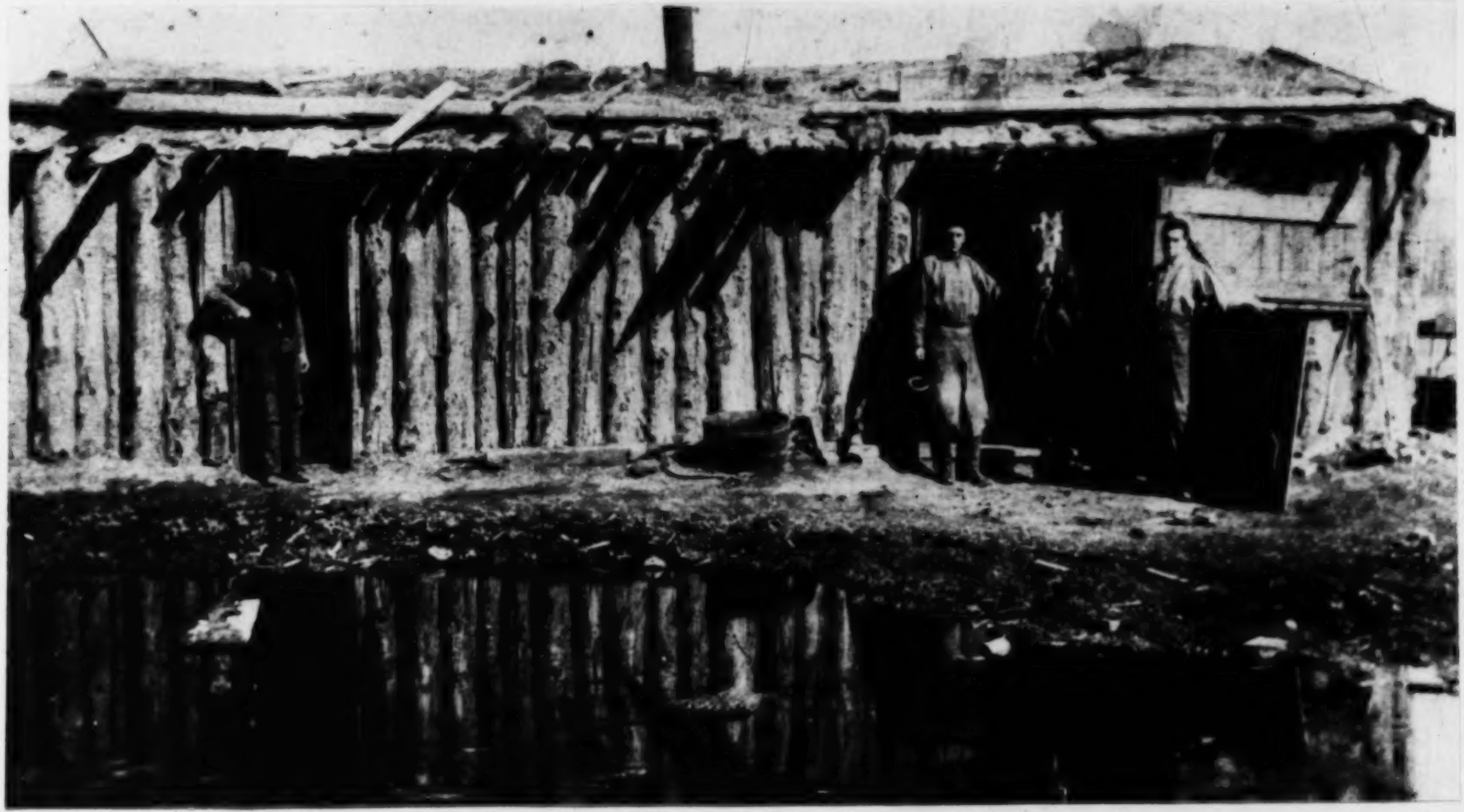

Figure 20. A contemporary example of the vertical log construction method, the blacksmith shop, Fort Calgary, 1883 (photo credit: Glenbow-Alberta Archives, NA-448-4).

TABLE 6

Comparison of Building Dimensions by Wall Construction Method

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HORIZONTAL LOG STRUCTURES (N=13)

Building Dimensions (in metres)	Length	Width
1. Officers' Quarters	10.9	5.5
14. Enlisted Men's Barracks/Mess	12.5	6.1
15. Enlisted Men's Barracks	16.9	5.9
17. Enlisted Men's Barracks	15.7	6.0
21. Cookhouse	6.4	4.0
25. Guard Room	6.8	6.8
26. Commissioner's Residence	13.8	6.4
28. Quartermaster Stores	13.5	6.4
34. Commissioner's Privy	4.4	4.2
38. Library	8.0	6.1
39. Hospital	11.8	4.9
41. Enlisted Men's Barracks	26.9	9.6
42. Powder Magazine	6.7	4.1

Correlation Coefficient $r= .773$; $r^2= .598$

VERTICAL LOG STRUCTURES (N=11)

Building Dimensions (in metres)	Length	Width
5. North Stables	18.7	8.0
6. North Stables Auxiliary	7.2	4.1
7. Northwest Privy	3.0	2.4
11. Southwest Privy	3.8	2.6
12. South Stables	18.0	7.6
13. South Stables Auxiliary (1875)	6.2	2.6
13. South Stables Auxiliary (1880)	7.2	4.1
29. N.C.O.'s Privy	3.0	2.6
30. Officers' Privy	3.6	2.8
37. Harness Room	8.3	4.0
43. Stables	27.3	9.1

Correlation Coefficient $r= .980$; $r^2= .92$

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pieces (Table 7). By using a log in this fashion there would be less waste, since the complete log could be used in the longitudinal wall, while the smaller parts would be used as end pieces (such as with buildings 1, 14, 26, and 28, Table 7). According to the building dimensions recorded in

TABLE 7

Log Length/Building Wall Ratios:
Horizontal Log Structures

Building Descriptions	Building Dimensions	Length of Log Used in Wall Construction	Building Dimensions as Ratio of Log Length
1875			
1. Off. Quarter	10.9 m x 5.5 m	36 ft (10.9m)	1.0 x 0.5
14. Barracks	12.1 m x 6.1 m	40 ft (12.2m)	1.0 x 0.5
15. Barracks	17.4 m x 6.1 m	40 ft (12.2m)	1.5 x 0.5
1876-78			
17. Barracks	15.8 m x 6.0 m	40 ft (12.2m)	1.3 x 0.5
21. Cookhouse	6.1 m x 4.1 m	40 ft (12.2m)	0.5 x 0.3
25. Guardhouse	6.8 m x 6.8 m	44 ft (13.4m)	0.5 x 0.5
26. Comm.'s Res.	13.8 m x 6.4 m	45 ft (13.7m)	1.0 x 0.5
28. Qtermaster.	13.5 m x 6.4 m	44 ft (13.4m)	1.0 x 0.5
1879-83			
34. Comm.'s Privy	4.2 m x 4.4 m	44 ft (13.4m)	0.3 x 0.3
38. Library	8.0 m x 6.1 m	40 ft (12.2m)	0.6 x 0.5
41. Barracks	26.9 m x 9.6 m	44 ft (13.4m)	2.0 x 0.6
42. Pder. Mag.	6.7 m x 4.1 m	44 ft (13.4m)	0.5 x 0.3

table seven, 36 and 40 foot logs were used to construct the initial fort, while 40, 44, and 45 foot logs were used to expand the facilities and build new structures. Therefore, building wall proportions were contingent on the increments which a 36, 40, 44, or 45 foot log could be cut. The basic geometric shape from which horizontal log structures were organized was that of a square (Table 8). From this square, the proportions were expanded in increments equivalent to the building width. In other words, the basic contrastive oppositions by which structures at Fort Walsh were conceptu-

TABLE 8

Building Proportions: Horizontal Log Structures

Length/Width Ratio	Building Description
1:1	25. Guard Room 34. Commissioner's Privy
1:1.5	21. Cookhouse 38. Library 42. Powder Magazine
1:2	1. Officers' Quarters 14. Enlisted Men's Barracks/Mess 28. Quartermaster Stores 26. Commissioner's Residence
1:3	15. Enlisted Men's Barracks 17. Enlisted Men's Barracks 29. N.C.O.'s Barracks 41. Enlisted Men's Barracks

ally ordered also served as the basis by which the geometric proportions of the two building types was contrasted.

2. Roofs: Roof construction techniques also varied according to two basic styles. With one method the roof peak was set rather low and a central ridge pole was used to connect the two peaks of both end gables. Separate, parallel, stringers flanked the ridge pole on each side, about equidistant between the eaves and the peak, and provided support along the mid section. Split poles were set tightly

together, at right angles to the stringers and peak. A mixture of clay and straw was then plastered over the poles and probably provided not only a crude form of insulation but also some protection from rains. The surface of the roof was finished with wide boards which were fitted in a board and batten style.

The second roof type was made with rafters which were set in a steep "A" frame. The rafters were planked and the surface covered with shingles. The gables at each end were constructed with a wide verge and enclosed with vertical planking.

There was, of course, some practical limitations to both roof construction types. Although shingle roofs were more efficient at keeping building interiors dry, the additional costs of importing shingling materials from Fort Benton, Montana, was not always an expense which the N.W.M.P. were prepared to meet. In comparison to the mud and board roofs, shingle roofs offered little insulation value and, consequently, were less practical for residential buildings during the colder winter months, despite the advantages they presented during periods of wet weather. However, the extra expense of a shingle roof for such buildings as the store rooms could be justified on the grounds that goods held in storage would be kept dry and there would be less waste from spoilage.

3. Entrances: Building entrances were either directly exposed to the outside or were protected by an enclosed vestibule. The vestibules themselves were either a frame construction (as on the library, officers' quarters, hospital, and oat stores) or were made from upright logs (as with the commissioner's residence). Once again, the vestibules probably provided a practical purpose. By enclosing the building entrance, a vestibule ensured that the structure would be less exposed to cold winter winds. The feature also guaranteed some degree of privacy by obscuring the entrance (and, hence, the interior room) from direct visual exposure whenever the door was open.

The above material components and their contrastive attributes can be arranged into a hierarchical order which leads logically from one pair of oppositions to other contrastive pairs, and so on (Table 9). Each of these oppositions would appear to serve "a given systemic function in the organization of the whole" (Preziosi 1979:2). The bonding yields three separate levels, each of which is governed by its own underlying principles or code that binds all the building units with their social context and bestows an ideological meaning on the architectural competence. The typology recognizes six different basic structural types, and minimally serves as the mental model by which the build-

TABLE 9

Contrastive Visual Typologies

Building-Type	Component	Function	Component	Rank
Horizontal Log	1 shingle roof	stores [a.]		
	2 board roof	office residence mess	5 opened porch	enlisted
			6 closed porch	officer [b.]
Vertical Log	3 shingle roof	stable stores		
	4 board roof	privies [c.] stables shops		

Exceptions to the model:

a. officers'/division stores, kitchen/mess, 1879 barracks
b. library, 1881 hospital, oat stores
c. armoury/saddlery

ings at Fort Walsh were unconsciously conceived and structured into a systematic visual presentation.

1. The first principle on which the buildings at Fort Walsh were organized was visually presented in the method of wall construction and was further reinforced by the differences in their geometric proportions. This principle was governed by a code which classified domestic activities on

the basis of binary oppositions represented in concepts of dirty and clean. As indicated above, the buildings which were constructed with walls of upright logs were generally limited to stables, workshops, and privies. The activities associated with these structures were physical and they were dirty, being either related in some manner to the care of the force's herd of horses,or associated with the removal of waste from the human body. For the most part, these activities stood in direct contrast to such clean, non-polluting activities as eating, sleeping, and recreation which were conducted in the residences; or even to the administrative matters undertaken in the offices, and which were limited to buildings designed with horizontal logs.

2. Within both functional category a second contrastive attribute distinguished buildings used for storage and those for non-storage. Classification at this second level was visually encoded in the different methods of roof construction.

3. At the third level, residential buildings were distinguished on the basis of the rank associated with the structure. By leaving the building open or by protecting it within an enclosed vestibule, the N.W.M.P. were able to distinguish between those buildings intended for use by enlisted ranks or by officers.

As detailed in tables 4 and 5, it would initially appear that some of the later structures did not conform to the model outlined above; however, a closer examination indicates that all the exceptions were the result of changes instigated through later renovations, usually around the 1879 period. In other words, even the exceptions actually conformed to the model at some point in their structural history. For example, unlike other workshops (such as buildings 8, 22, and 23, Table 5), the armourer's and saddler's work areas were located in buildings of horizontal log construction. However, these buildings were originally constructed as residences and, indeed, conform to other buildings which were utilized as enlisted men's barracks. It was not until the 1879-80 renovations that the activities conducted in these structures changed to an artisan function.

Similarly, several buildings from the 1879-80 period would also appear inconsistent with the other structures providing a storage function. In the case of the officers'/divisional stores complex (building 15, Table 5), the building was originally constructed as a residence. Only part of the structure was converted to a storage function during the 1880 renovations. The other half of the building remained a residence for the staff sergeant and sergeant-major, possibly explaining why the roof was never changed to reflect a storage function.

Once again, the roof of the kitchen/mess (building 21), unlike most domestic structures, is shown on tables 4 and 5 as a shingled structure. According to historical documents there was a brief period in 1876, following the transfer of the second garrison to Fort Walsh, when the building functioned as a store room. This was the same year that the roof was heightened and shingled. When the quartermaster's storehouse (building 28) was built the following year, goods were moved to the newer building and the former structure (building 21) reverted back into a combined barracks and mess room.

In addition to the officer's residential buildings, the library, hospital, and oat storehouse were also provided with enclosed vestibules (buildings 38, 39, and 4). The library and hospital were the only structures which would have been used on a regular basis by all ranks, including officers. The oat storehouse was also used temporarily as a residential building in 1876-77, when the number of personnel at the post increased. Unfortunately, however, the data in unclear as to whether the structure was used exclusively by officers or enlisted ranks. Nonetheless, given the correlation between this architectural feature and officer ranks, it would appear that the enclosed porch was not only representative of those residential buildings used by officers ranks but also the structures they would be expected to frequent on a regular basis.

As early as 1879 rumors were circulating that Fort Walsh would be soon abandoned. Since this date also coincides with the period when the majority of the inconsistencies in the material entity were first implemented, it is possible that they were tolerated on the assumption that entirely new facilties were to be built in the near future.

Summary

The material formations symbolically encoded in the built environment at Fort Walsh provided a forum by which the N.W.M.P. could actively preserve and reinforce their preceptions of the social world. In other words, the natural environment--while perhaps exercising some restrictions on structural design by limiting the availability and selection of building materials--still provided the N.W.M.P. with considerable latitude for incorporating symbolic representations in the three-dimensional form. Survival and adaptation to an unrelenting natural environment may have guaranteed that the police had "little time to reflect upon the kinds of symbols which could appropriately adorn the buildings or to consider which layout or style might represent the sophistication of a materially richer society" (Hildebrandt 1980:2). Yet patterned variability in the individual N.W.M.P. building units was at least not limited by order in the natural world, nor was it even a neutral referent of behaviour. Instead, the three-dimensional form at Fort Walsh was held complementary to social interrelationships.

CHAPTER VIII

CULTURAL IDEOLOGIES AND THE ORGANIZATION OF SPACE

Proxemic research has already demonstrated that each culture defines the preferred distance at which social interaction should take place. Leone's (1973, 1977) work on Mormon settlements suggests that a similar regularity can also be expected in a culture's material extensions, and these spatial parameters are very much a part of cultural ideologies. More recently, Fletcher (1977) has pointed out that a regular and consistent spatial pattern exists between all the entities in the built environment. As well, consistent intervals are possible even if the culture does not formally recognize the use of measuring devices other than visual estimation. The question which remains, then, is whether or not the N.W.M.P. employed spatial patterns at Fort Walsh to give substance and meaning to their perceived conceptions of social order. If the police were able to find means by which to encode symbolic representations in material entities, despite limited material resources, then perhaps they also spatially inter-related each structure within the wider context of the community. A regular, consistent, and limited community pattern should have been produced at Fort Walsh if its members were, in fact, to maintain coherence in their behaviour.

Social Distance and Spatial Patterning

As first constructed in 1875, Fort Walsh consisted of only those structures which met the immediate demands of the police (Figure 21). The first buildings were essentially arranged around the periphery of an open square and the entire compound surrounded by a log palisade. The complex was relatively small, measuring only 100 m to 125 m on a side; and was situated so that it was not divided by any natural barriers, such as water courses or hills. Although some natural features had been used to separate the N.W.M.P. fort from the local civilian community (see Chapter 6), the fort itself was located on a broad flat terrace which did not include any geographical phenomena which could have created natural boundaries or reference points for spatial divisions. This distinction is important in that it suggests any observable patterns in the layout of Fort Walsh would then have to be attributable to culturally-defined codes.

Perhaps the first and most basic scheme by which Fort Walsh was spatially categorized lay in the principles of symmetry and the division of the enclosure into two equal halves (Figure 21). That is, the fort appears to have been organized along a central east/west axis which projected

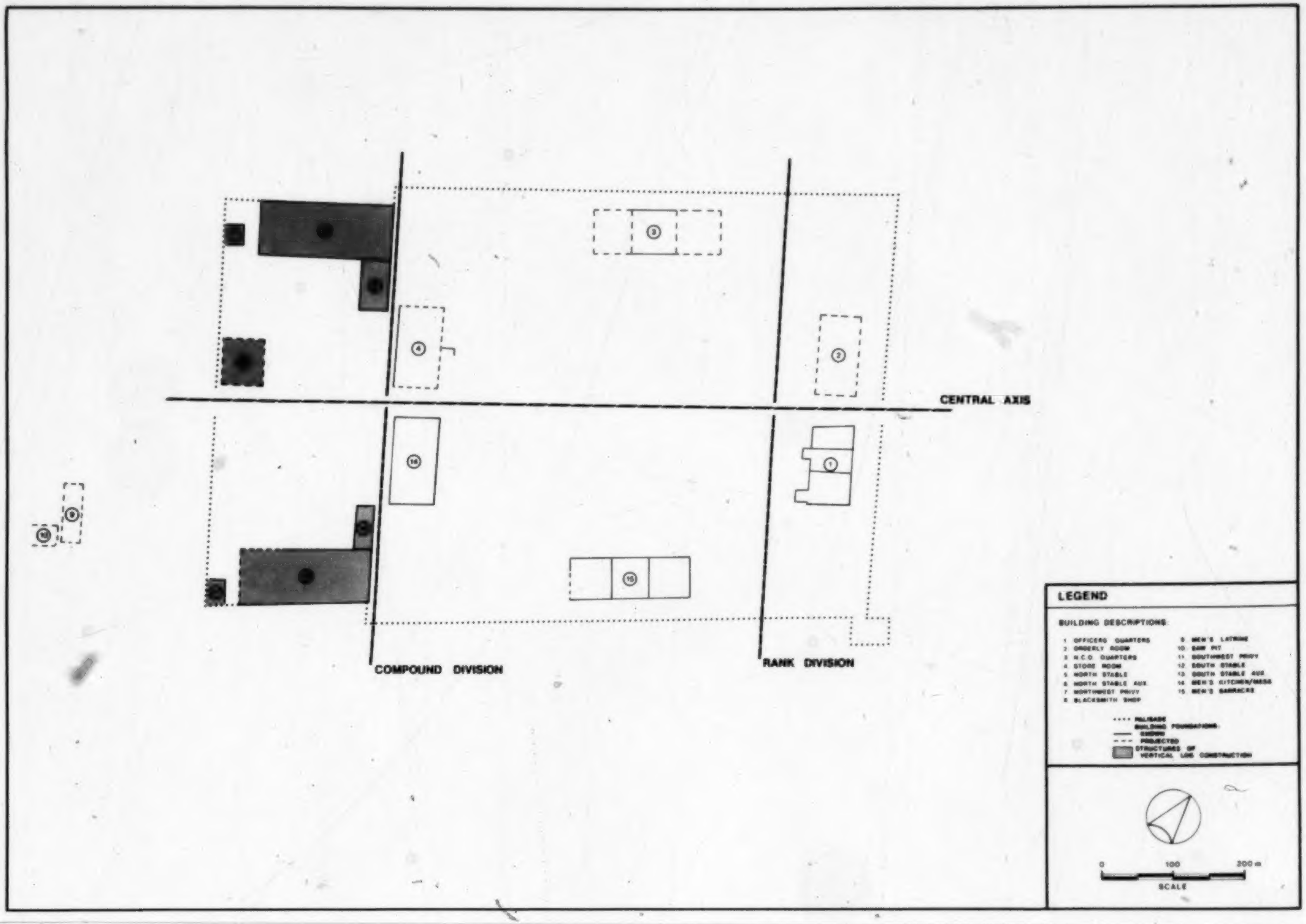

CENTRAL AXIS
COMPOUND DIVISION
RANK DIVISION
LEGEND
BUILDING DESCRIPTIONS:
1 OFFICERS QUARTERS
2 ORDERLY ROOM
3 N.C.O. QUARTERS
4 STORE ROOM
5 NORTH STABLE
6 NORTH STABLE AUX
7 NORTHWEST PRIVY
8 BLACKSMITH SHOP
9 MEN'S LATRINE
10 SAW PIT
11 SOUTHWEST PRIVY
12 SOUTH STABLE
13 SOUTH STABLE AUX
14 MEN'S KITCHEN/MESS
15 MEN'S BARRACKS
PALISADE
BUILDING FOUNDATIONS:
KNOWN
PROJECTED
STRUCTURES OF VERTICAL LOG CONSTRUCTION
0
100
200 m
SCALE

Figure 21. Spatial divisions at Fort Walsh, 1875.

through the middle of the eastern and western gates. The axis divided the fort into right and left halves, both of which were more or less equal in size, shape, and in the positioning of their structures relative to the dividing line. The symmetrical layout of the compound was not accidental, since it will be demonstrated later that subsequent expansion and renovations undertaken by the N.W.M.P. essentially attempted to maintain the arrangement.

The second principle on which Fort Walsh was spatially organized was based on the intersection of the axis of symmetry by two other divisional lines which separated each half into smaller parts of the greater whole. The first of these divisions was formed by the placement of the enlisted men's kitchen/mess and stores buildings (numbers 14 and 4, Figure 21) in the middle of the compound, opposite the main (eastern) gate. The two structures were oriented to cut across the axis of symmetry at right angles, and effectively divided the enclosure into front and back compounds.

The spatial distinction between the two compounds and, consequently, the types of activities associated with each was visually represented in other contexts as well. Passage from the front compound was through the narrow opening between the mess and stores buildings which was not much wider than the opening in the palisade gates. The difference between the two compounds was visually reinforced by the obvious discrepancy in the size of the two open areas and by the structures themselves. The buildings surrounding the larger compound were all horizontal log construction; whereas, the structures in the smaller stable compound were entirely vertical log construction.

The obvious visual and spatial manifestations symbolically encoded on the two compounds can be interpreted as representing fundamental conceptual differences in the way in which the two areas were structured and perceived by the N.W.M.P. The divisions appear to have been related to the social classification and coding of activities associated with the buildings which were arranged around the periphery of each compound. These activities were binary oppositions represented by: private and public; dirty and clean; and enlisted men and officers (Figure 22). As indicated in the previous chapter, several of these contrastive categories also served as the conceptual basis by which activities undertaken in the individual building units were classified and materially encoded in the three-dimensional form. It would appear, therefore, that similar concepts of social order were basic to the structuring of the built environment at a variety of different levels.

For example, the structures which were restricted to the back compound could generally be classified as to one of two functional types. Either the buildings were related to the day-to-day care of the horses ridden by the members of the force--including storage facilities for the equipment

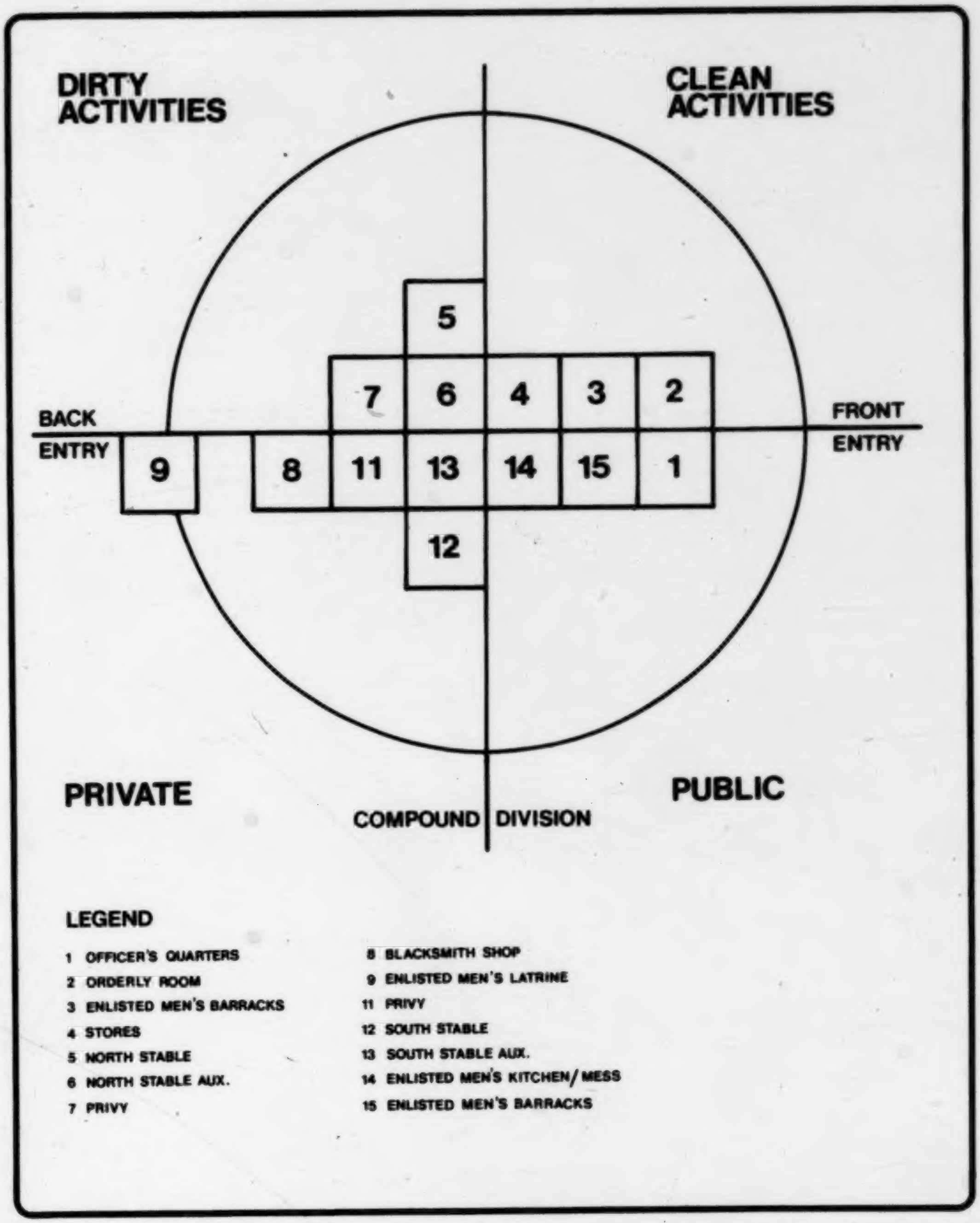

DIRTY ACTIVITIES
CLEAN ACTIVITIES
5
7
6
4
3
2
BACK
ENTRY
FRONT
ENTRY
9
8
11
13
14
15
1
12
PRIVATE
PUBLIC
COMPOUND DIVISION
LEGEND
1 OFFICER'S QUARTERS
2 ORDERLY ROOM
3 ENLISTED MEN'S BARRACKS
4 STORES
5 NORTH STABLE
6 NORTH STABLE AUX.
7 PRIVY
8 BLACKSMITH SHOP
9 ENLISTED MEN'S LATRINE
11 PRIVY
12 SOUTH STABLE
13 SOUTH STABLE AUX.
14 ENLISTED MEN'S KITCHEN/MESS
15 ENLISTED MEN'S BARRACKS

Figure 22. The organization and classification of space at Fort Walsh, 1875 (schematic presentation adapted from Lawrence 1979)

used in such activities--or they were associated with human excretion. In other words, the activities associated with these buildings were, in effect, private since they concerned only members of the police force themselves. Under normal circumstances, someone outside the N.W.M.P. would really have no reason for entering the stable yard. Whether a visitor was in the garrison on business matters or simply attending a social function hosted by the force, his movement within the fort enclosure could generally be limited to the front compound where the residential structures and offices were maintained.

It was the enlisted men who were primarily responsible for grooming the horses and for undertaking the necessary chores to maintain the stables. These duties were performed on a regular basis. The job was mostly physical and it was dirty; it stood in direct contrast to the clean, non-physical, administrative and managerial activities associated with the day-to-day operation of the post as a centre of law enforcement. The latter activities were primarily conducted by the officer ranks; and were spatially segregated to those buildings located to the front of the fort enclosure, near the public entrance. On the other hand, the domestic buildings which were used exclusively by the enlisted ranks (the barracks and kitchen/mess) were situated in the centre and back areas of the front compound, next to the stable yard.

The division of the front compound on the basis of rank was probably not as visually apparent as the difference between the stable and the residential yards. Some minor distinctions were materially encoded in the different structure types which were associated with the two ranks (see Chapter 7), and may have visually intensified the spatial differences. The officers' and enlisted men's spatial autonomy was also less restrictive in terms of their physical accessibility--that is, there was no obvious physical boundary separating the two areas. Physical barriers, however, are not always necessary for signaling information concerning the use of space. As mentioned earlier, cultures are quite capable of defining the preferred distance at which social interaction should take place without even formally recognizing the actual distances used. Given the obvious social dichotomies the N.W.M.P. instituted between the ranks, one would then expect to find a similar regularity reflected "in the structural framework of the daily lives" (Fletcher 1977:56-57). In other words, rank distinctions in the spatial dimension may not be expressed only in terms that concentrate certain buildings to one area of the compound. Such distinctions might possibly also be projected on the actual physical distances involved.

In an attempt to assess this possibility, a comparison of the specific distances separating each building at Fort Walsh should provide some indication of those structures which were spatially separated or clustered within the compound. Table 10 presents inter-building distances for the 1875 period, and summarizes the mean distances for each structure as spaced against all other buildings in the fort. With mean values of 66.9 m and 68.0 m, the two structures associated with officer ranks--the officers' quarters and orderly room (buildings 1 and 2, Table 10)--obviously averaged a greater distance from all of the other structures in the compound. These values to some extent reflect the fact that the officers' buildings were situated at one end of the rectangular-shaped enclosure. However, those structures at the opposite end of the rectangle, such as the northwestern and southwestern privies (buildings 7 and 11, Table 10), exhibit inter-building means of far less value; and, in fact, are much closer to the site mean, reflecting the extent to which the structures generally cluster towards the western side of the compound.

The site mean and standard deviation also provide some indication of the average spacing used to separate the structures throughout the entire site as well as the amount of toleration or dispersion which was allowed. As a measurement of central tendency, the standard deviation provides a range about the mean which will include a given number of building spacings (68 percent of the measurements will lie within one standard deviation of the mean). Although it is recognized that "there can be no assumption

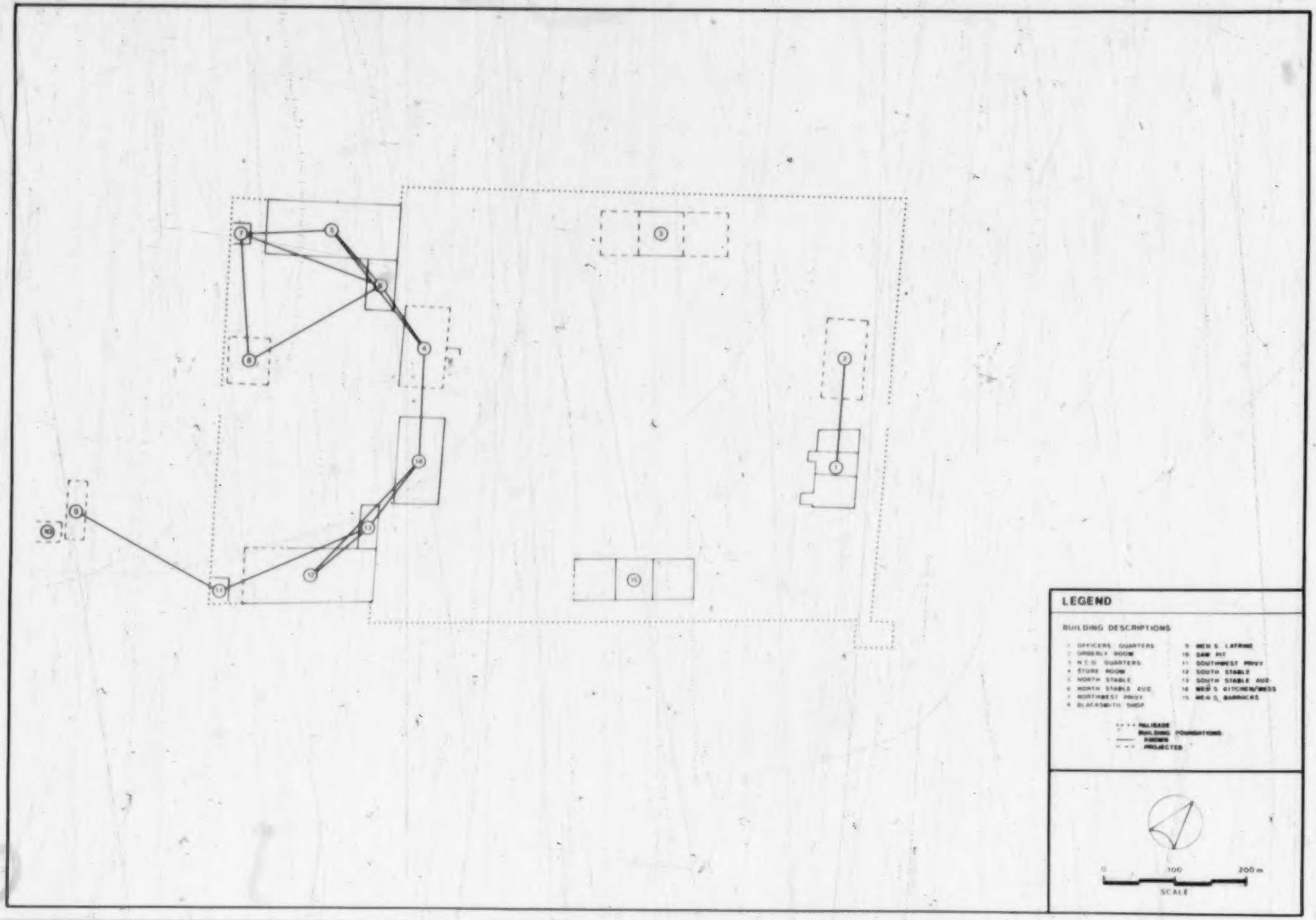
TABLE 10

Inter-Building Distances, N.W.M.P. Post Fort Walsh, 1875*

														Building	
														Mean	S.D.
1. Officers' Quarters	16.0	41.0	60.5	78.6	69.3	90.3	84.8	107.6	88.6	74.7	66.5	58.8	32.4	66.9	25.4
2. Orderly Room		31.0	59.6	74.8	66.5	87.2	85.0	111.0	94.4	81.9	71.6	62.1	43.6	68.0	26.2
3. N.C.O. Barracks			37.4	46.8	40.6	59.6	62.0	92.0	80.3	69.4	58.6	46.1	48.9	54.9	17.7
4. Store Room				21.0	10.8	30.5	25.4	54.5	44.4	36.1	26.5	16.1	44.0	35.9	16.1
5. North Stables					10.3	12.9	22.4	54.0	53.5	49.0	42.2	34.9	65.2	43.5	22.4
6. North Stables Aux.						21.0	22.0	54.0	48.7	42.4	34.2	25.5	54.8	38.5	19.8
7. Northwest Privy							18.2	46.0	50.6	49.4	45.2	40.9	74.0	48.1	24.8
8. Blacksmith Shop								32.0	32.4	31.6	29.1	28.3	63.0	41.2	23.8
9. Latrine									23.0	34.2	41.4	49.0	79.4	59.8	28.7
11. Southwest Privy										12.8	22.8	33.4	58.4	49.4	25.7
12. South Stables											10.8	22.4	45.8	43.2	22.3
13. South Stables Aux.												11.6	38.4	38.4	19.0
14. Men's Mess/Kitchen													34.6	35.6	15.4
15. Men's Barracks														52.5	14.8
														Site	
														Mean	S.D.
														48.3	23.7

* distances calaulated from the mid point of each structure

that the community's behavior depends upon the percentage expectation to which the standard deviation refers" (Fletcher 1979:79), the measurement at least provides some indication of those specific building distances which lie towards the maximum and minimum ends of the distribution. The individual building distances which lie outside the range of the central tendency have been plotted separately for minimum (Figure 23) and maximum (Figure 24) values. As


LEGEND
BUILDING DESCRIPTIONS
1 OFFICERS QUARTERS
2 ORDERLY ROOM
3 N.C.O. QUARTERS
4 STORE ROOM
5 NORTH STABLE
6 NORTH STABLE AUX
7 NORTHWEST PRIVY
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11 SOUTHWEST PRIVY
12 SOUTH STABLE
13 SOUTH STABLE AUX
14 MEN'S KITCHEN/MESS
15 MEN'S BARRACKS
PALISADE
BUILDING FOUNDATIONS
KNOWN
PROJECTED
0
100
200 m
SCALE
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

Figure 23. Minimum inter-building distances, Fort Walsh, 1875.

suspected, the building distances at the minimum end of the distribution are primarily represented at the western end of the compound, in the stable area; on the other hand, the distances found towards the maximum end of the scale mostly focus on the two buildings used by officer ranks.

Following Fletcher (1979:79-88), the building means and standard deviations can be used as an index of variation since the two values provide a range in which a consistent percentage of inter-building distances occur for each structure. These values are summarized for each building within the 1875 enclosure in table 10, and have also been graphically presented in figure 25a. It is evident that variation in the spacing of the structures at Fort Walsh tends to increase as mean inter-building distances also increase; however, the degree of increase would appear variable with each structure. That is, a precise indication of mean distances cannot be predicted from any given rate of variation. Nonetheless, the index of variation does provide some indication of the spatial parameters under which the 1875 compound was conceptually ordered.

The structures which were reserved for officer ranks (numbers 1 and 2) cluster at the extreme upper right corner of the graph. This placement underlines the large variation and spatial isolation manifested in the actual inter-building distances noted above. The only other building with a comparable index to the officers' structures was the enlisted men's latrine (building 9), which was located outside of

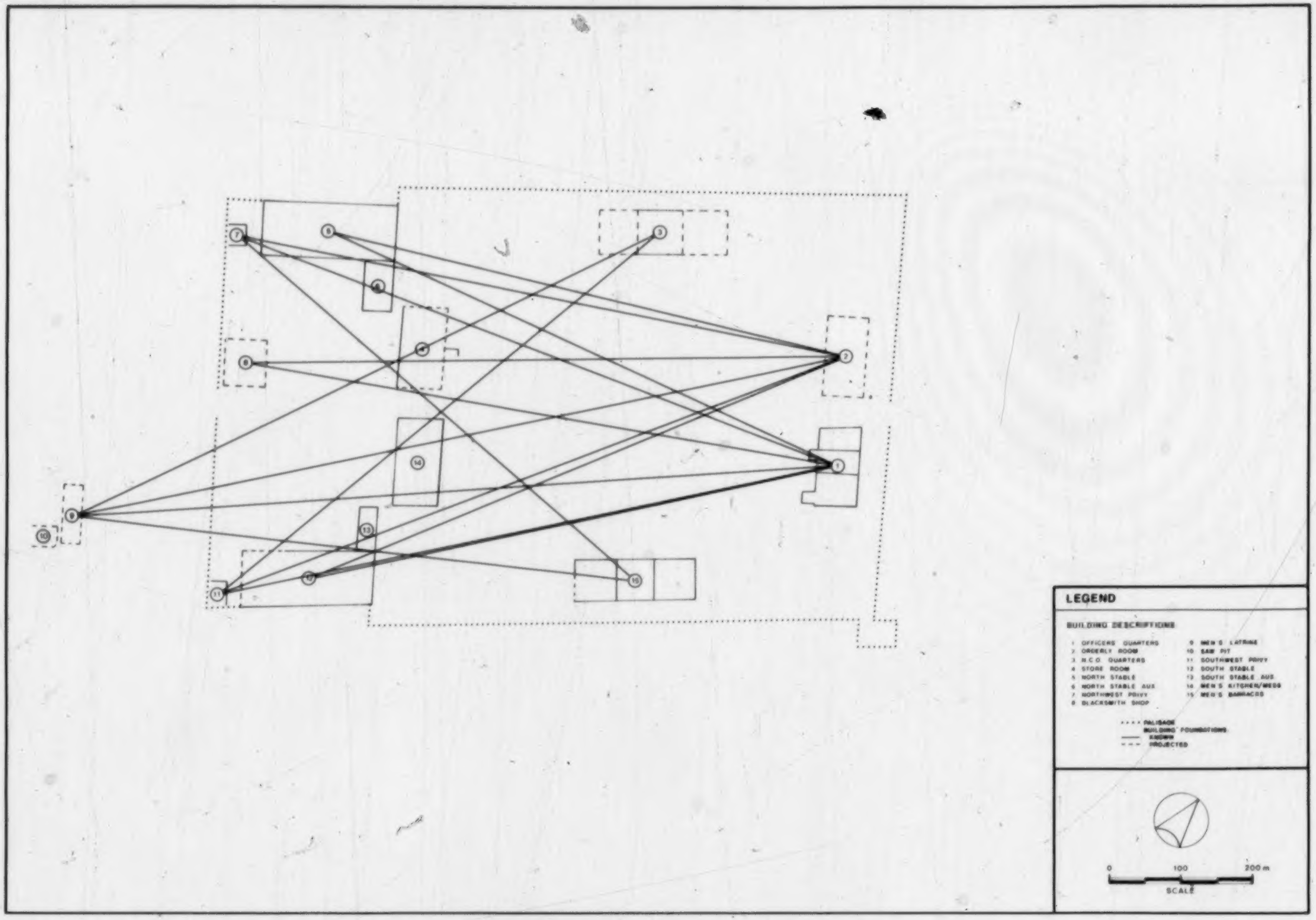

LEGEND
BUILDING DESCRIPTIONS
1 OFFICERS QUARTERS
2 ORDERLY ROOM
3 N.C.O. QUARTERS
4 STORE ROOM
5 NORTH STABLE
6 NORTH STABLE AUX
7 NORTHWEST PRIVY
8 BLACKSMITH SHOP
9 MEN'S LATRINE
10 SAW PIT
11 SOUTHWEST PRIVY
12 SOUTH STABLE
13 SOUTH STABLE AUX
14 MEN'S KITCHEN/MESS
15 MEN'S BARRACKS
PALISADE
BUILDING FOUNDATIONS
KNOWN
PROJECTED
0
100
200 m
SCALE
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

Figure 24. Maximum inter-building distances, Fort Walsh, 1875

the western palisade. As measured by the standard deviation, other buildings in the 1875 enclosure (most notably numbers 5, 7, 8, 11, and 12, Figure 25a) also show a large variation in their respective inter-building distances; however, the distribution of their indices towards the upper left hand section of figure 25a reflects the smaller values of their means, and the clustering of minimum inter-building distances towards the western half of the compound.

Throughout the first half of the N.W.M.P.'s occupation of Fort Walsh, the spatial arrangement of the post was not significantly altered despite the considerable expansion and renovations which were undertaken from 1876 to early 1878. In particular, a special effort seems to have been made to maintain the symmetrical layout of the post. With the exception of the commissioner's residence (building 26, Figure 26) which was built in late 1876, nearly all of the structures which were added were evenly spaced about the central axis. Even the placement of the commissioner's residence was essentially duplicated on the opposite side of the compound with the new orderly room (building 24, Figure 26). The only difference between the two structures was the distance which the commissioner's residence was withdrawn from the central compound. Structures which were not duplicated on either side of the enclosure (for example, the quartermaster's storehouse and the guard room, buildings 28 and 25, Figure 26) were placed directly on the central axis.

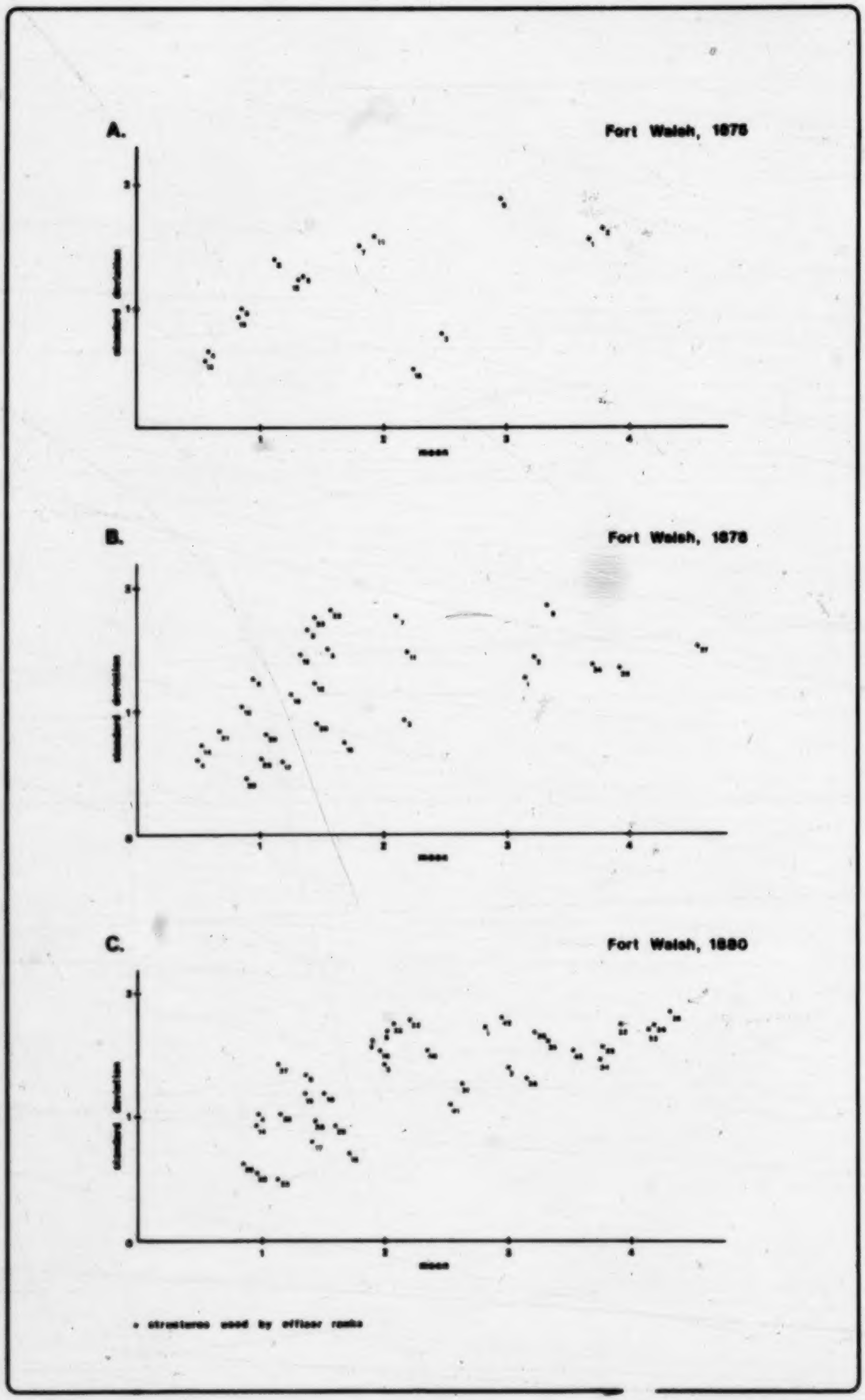
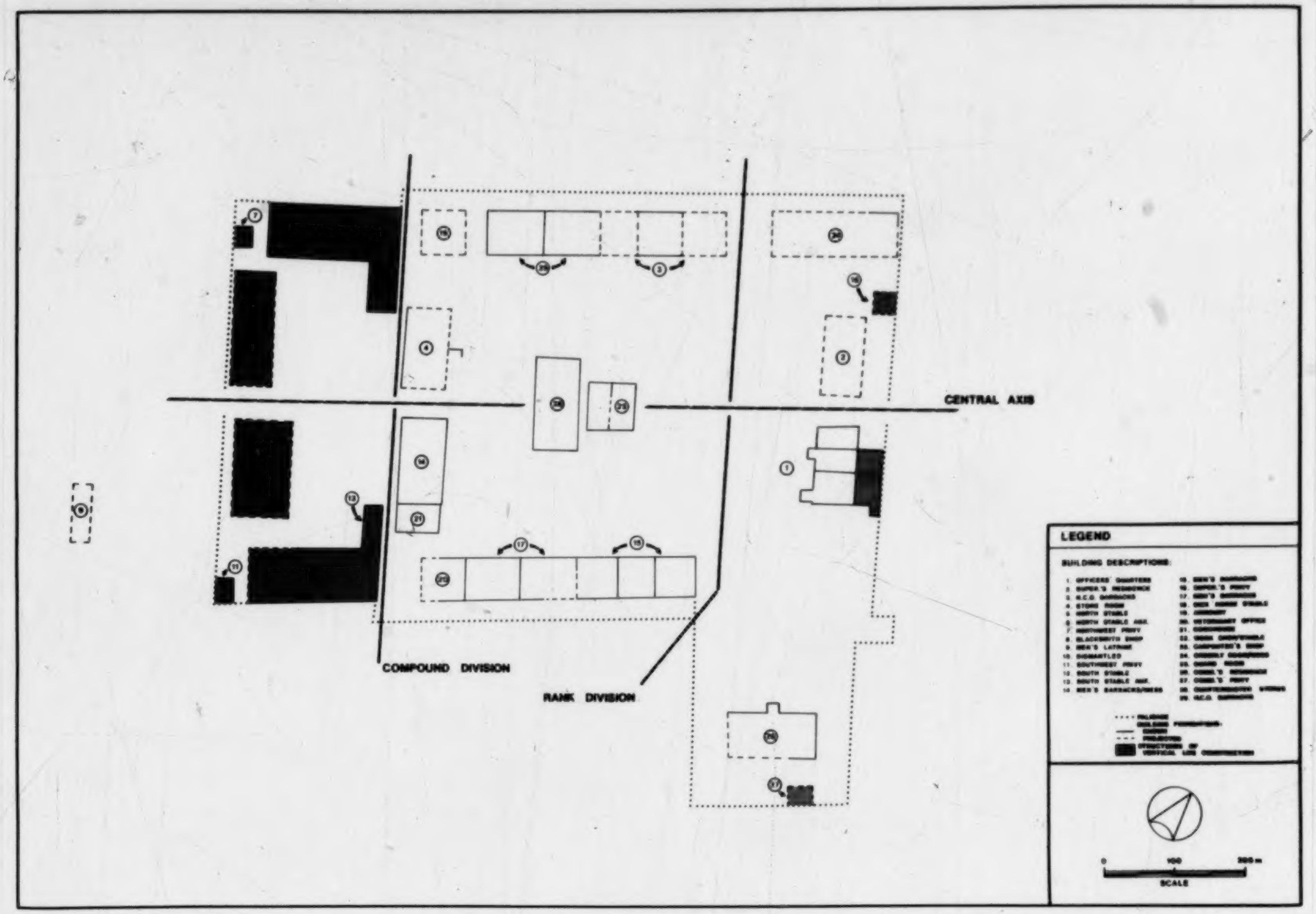


Figure 25. Index of variation.

The addition of new structures within the Fort Walsh enclosure also followed the socio-functional classification of activities which had been first established in 1875. For example, any new structures used exclusively by officers were still located on the eastern side of the compound. Similarly, the new enlisted men's barracks and stores buildings (numbers 17, 29, and 19, Figure 26) were retained in the central area while the new stable structures (buildings 18, 22, and 23, Figure 26) were placed along the western side of the fort. Spatial parameters, as represented by the index of variation (Figure 25b), also remained essentially unchanged. In terms of the distances separating the buildings within the compound, the officers' structures remained spatially distinct, incorporating only the highest mean values.

It was not until late 1879, when the northern and southern palisades were extended, that the spatial layout of the post was significantly altered. It is interesting that, while the renovations may have improved the symmetrical presentation of the public façade (the palisades and bastions), the interior arrangement of the post was considerably less symmetrically ordered (Figure 27). Although the police still observed the basic socio-functional classificatory schemes described earlier, the spatial parameters which delineated the borders were less obvious as a result of the new construction. The division between the two major com-



CENTRAL AXIS
COMPOUND DIVISION
RANK DIVISION
LEGEND
BUILDING DESCRIPTIONS:
1. OFFICERS' QUARTERS
2. SUPER.'S RESIDENCE
3. N.C.O. BARRACKS
4. STORE ROOM
5. NORTH STABLE
6. NORTH STABLE ANX.
7. NORTHWEST PRIVY
8. BLACKSMITH SHOP
9. MEN'S LATRINE
10. DISMANTLED
11. SOUTHWEST PRIVY
12. SOUTH STABLE
13. SOUTH STABLE ANX.
14. MEN'S BARRACKS/MESS
15. MEN'S BARRACKS
16. SUPER.'S PRIVY
17. MEN'S BARRACKS
18. SICK HORSE STABLE
19. [illegible]
20. VETERINARY OFFICE
21. [illegible]
22. [illegible]
23. CARPENTER'S SHOP
24. [illegible]
25. GUARD ROOM
26. COMM.'S RESIDENCE
27. COMM.'S PRIVY
28. QUARTERMASTER STORES
29. N.C.O. BARRACKS
PALISADE
BUILDING FOUNDATION:
PROJECTED
STRUCTURES OF VERTICAL LOG CONSTRUCTION
0
100
200 m
SCALE

Figure 26. Spatial divisions at Fort Walsh, 1878.

pounds was visually apparent since the two areas were still inter-connected only through the narrow passage between the men's mess and the oat storehouse (buildings 14 and 4, Figure 27). By contrasting the vertical and horizontal methods of wall construction, the perceptual dichotomy would have been reinforced; however, the perimeter of either compound was no longer visually distinct in the sense that all four sides were bordered with structures (particularly along the southern side). As well, inter-building distances changed considerably (Figure 25c). Although the officers' structures were still, on the average, further separated from all other buildings in the compound, this parameter was less distinctive.

Building layout at Fort Walsh was to see a variety of changes as the number of personnel stationed at the post fluctuated and as new structures were added and older ones removed. The meaning and use of space was independent of materials used in building construction or constraints imposed by the natural landscape. The changes which were made were not arbitrary, but were made in recognition of three fundamental structural principles:

1. A principle of symmetrical organization. There was a basic rule which required regularity and consistency to the order in which the community was structured. This order transgressed the social classification and coding of activi-

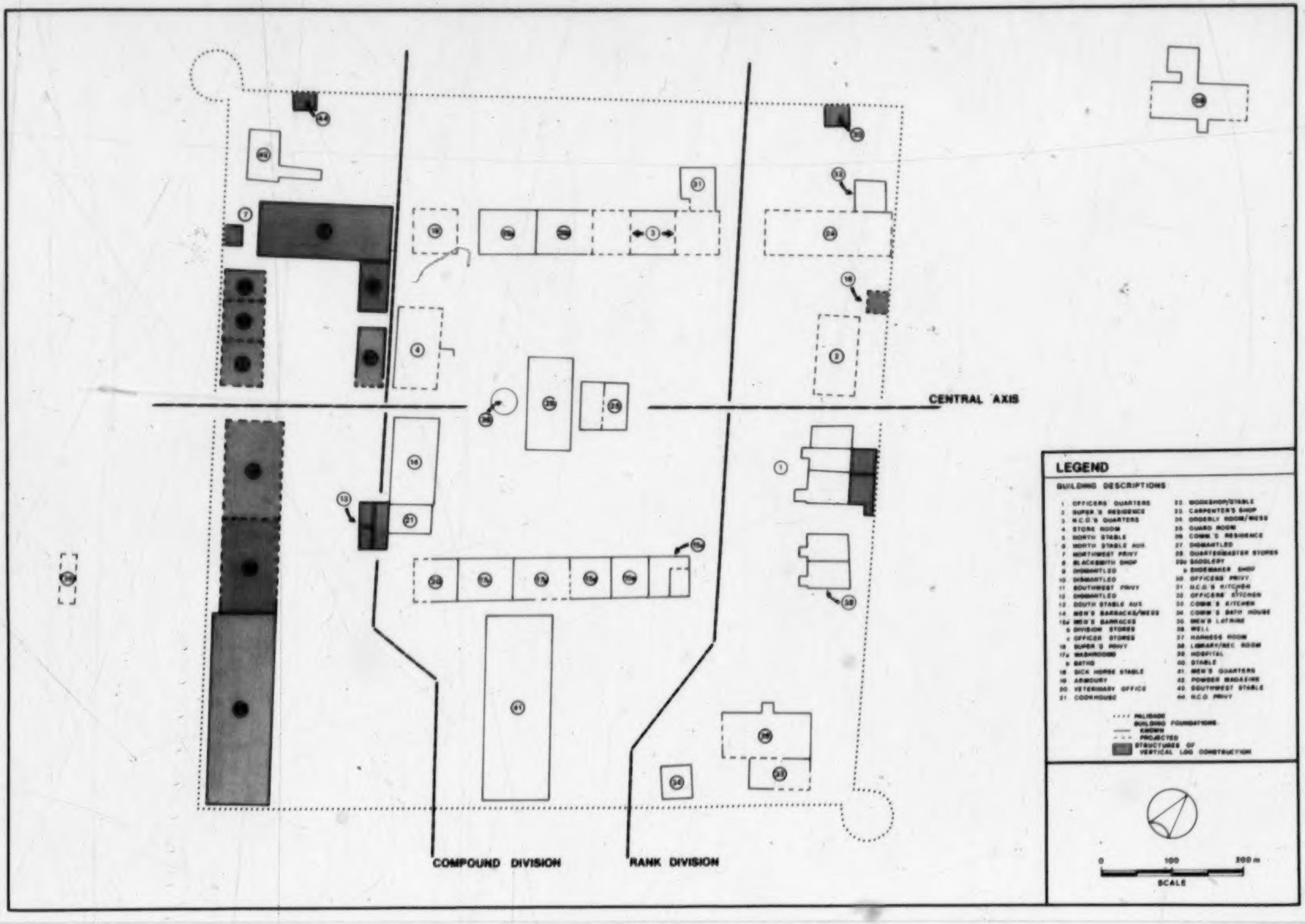

CENTRAL AXIS
COMPOUND DIVISION
RANK DIVISION
LEGEND
BUILDING DESCRIPTIONS
1 OFFICERS' QUARTERS
2 SUPER'S RESIDENCE
3 N.C.O.'S QUARTERS
4 STORE ROOM
5 NORTH STABLE
6 NORTH STABLE AUX
7 NORTHWEST PRIVY
8 BLACKSMITH SHOP
9 DISMANTLED
10 DISMANTLED
11 SOUTHWEST PRIVY
12 DISMANTLED
13 SOUTH STABLE AUX
14 MEN'S BARRACKS/MESS
15a MEN'S BARRACKS
b DIVISION STORES
c OFFICER STORES
16 SUPER'S PRIVY
17a WASHROOM
b BATHS
18 SICK HORSE STABLE
19 ARMOURY
20 VETERINARY OFFICE
21 COOKHOUSE
22 WORKSHOP/STABLE
23 CARPENTER'S SHOP
24 ORDERLY ROOM/MESS
25 GUARD ROOM
26 COMM'S RESIDENCE
27 DISMANTLED
28 QUARTERMASTER STORES
29a SADDLERY
b SHOEMAKER SHOP
30 OFFICERS PRIVY
31 N.C.O.'S KITCHEN
32 OFFICERS' KITCHEN
33 COMM'S KITCHEN
34 COMM'S BATH HOUSE
35 MEN'S LATRINE
36 WELL
37 HARNESS ROOM
38 LIBRARY/REC ROOM
39 HOSPITAL
40 STABLE
41 MEN'S QUARTERS
42 POWDER MAGAZINE
43 SOUTHWEST STABLE
44 N.C.O. PRIVY
PALISADE
BUILDING FOUNDATIONS
KNOWN
PROJECTED
STRUCTURES OF VERTICAL LOG CONSTRUCTION
0
100
200 m
SCALE

Figure 27. Spatial divisions at Fort Walsh, 1882.

ties. It also contrasted the N.W.M.P. community with that of the local town by requiring the distribution of buildings in the compound to be consistently ordered along a central axis.

2. A principle which required the positioning of activities and their associated structures relative to the public entrance. This code categorized activities according to a set of social ideas and images which distinguished between the binary oppositions represented by physical/nonphysical and dirty/clean. Those activities which were perceived as being physical and/or dirty were placed in areas which were private, and were located "behind" or to "back" areas of the compound. Conversely, contrastive activities and their related structures were positioned towards the front of the enclosure in areas which were more accessible and visible to the public.

3. A principle which associated buildings in the public area of the compound on the basis of the occupant's rank. This code basically distinguished between the two major ranks, officers and enlisted men; and ordered the compound relative to the public entrance. It set the enlisted ranks towards the back area of the main compound, adjacent to the smaller, private, stable compound which was associated with filth and physical activities; officer ranks, on the other hand, were placed next to the entrance area in what was probably the most public area in the entire enclosure.

It is worth noting that it was not until the final renovations to Fort Walsh had been initiated that there was any suggestion in the historical documents of a dissatisfaction with the post. It has already been indicated that earlier reports may have alluded to the unhealthy atmosphere at Fort Walsh, but these generally correlate the situation to even worse problems "outside" the fort. As a result, the overall tone of the document is usually optimistic, suggesting that the problems are only temporary and perhaps even to be expected given the nature of the frontier situation. It was not until the final construction phase had been implemented that police reports began to call for an abandonment of their quarters. While it is recognized that the documents themselves specifically fail to mention spatial problems as a reason for the dismantlement of Fort Walsh, it is interesting that the negativism should correlate to the period when spatial principles had been clearly violated. Modern proxemic research has shown that proper use of the spatial dimension can contribute greatly to a conducive and healthy atmosphere, while improper use can have immediate opposite effects and often without the participants being aware of the possibility (for example, see Hall 1969). It is possible, then, that a violation of the principles of spatial organization could have contributed to a growing objectionable "feeling" about the place. With this in mind, it is interesting that the first example on record which calls for an abandonment of Fort Walsh references the post being "objectionable for a number of reasons" without actually detailing what these reasons might be:

> The position of the post is objectionable for many reasons, but as there was a commodious log barracks and stable built last fall, and a good large storehouse the year before, I do not feel inclined, in the present state of affairs, to urge a too speedy abandonment of the place [Canada. R.N.W.M.P. 1973a; Report 1879:6].

When Fort Walsh was eventually dismantled in 1883, the N.W.M.P. proceeded to build new quarters for themselves at Maple Creek, Medicine Hat, and Regina (Figures 28, 29, and 30). In each case, the spatial layout of the new post resembled Fort Walsh as it was initially designed in 1875. In other words, the new posts were organized on the basis of the principles described earlier: a symmetrical arrangement of the buildings about an open square; the segregation of buildings as based on rank association; and the positioning of buildings as recognized by their functional utilization. The similarity of the three new posts to the original Fort Walsh layout was duplicated even to the point where the officers' buildings, as represented by the index of variation, were spatially distinct from the remainder of their compounds (see Figure 31). In this respect, the arrangement of the new posts stood in contrast to the layout of Fort Walsh at the period of its abandonment. It could be argued, then, that if spatial parameters were not important to the

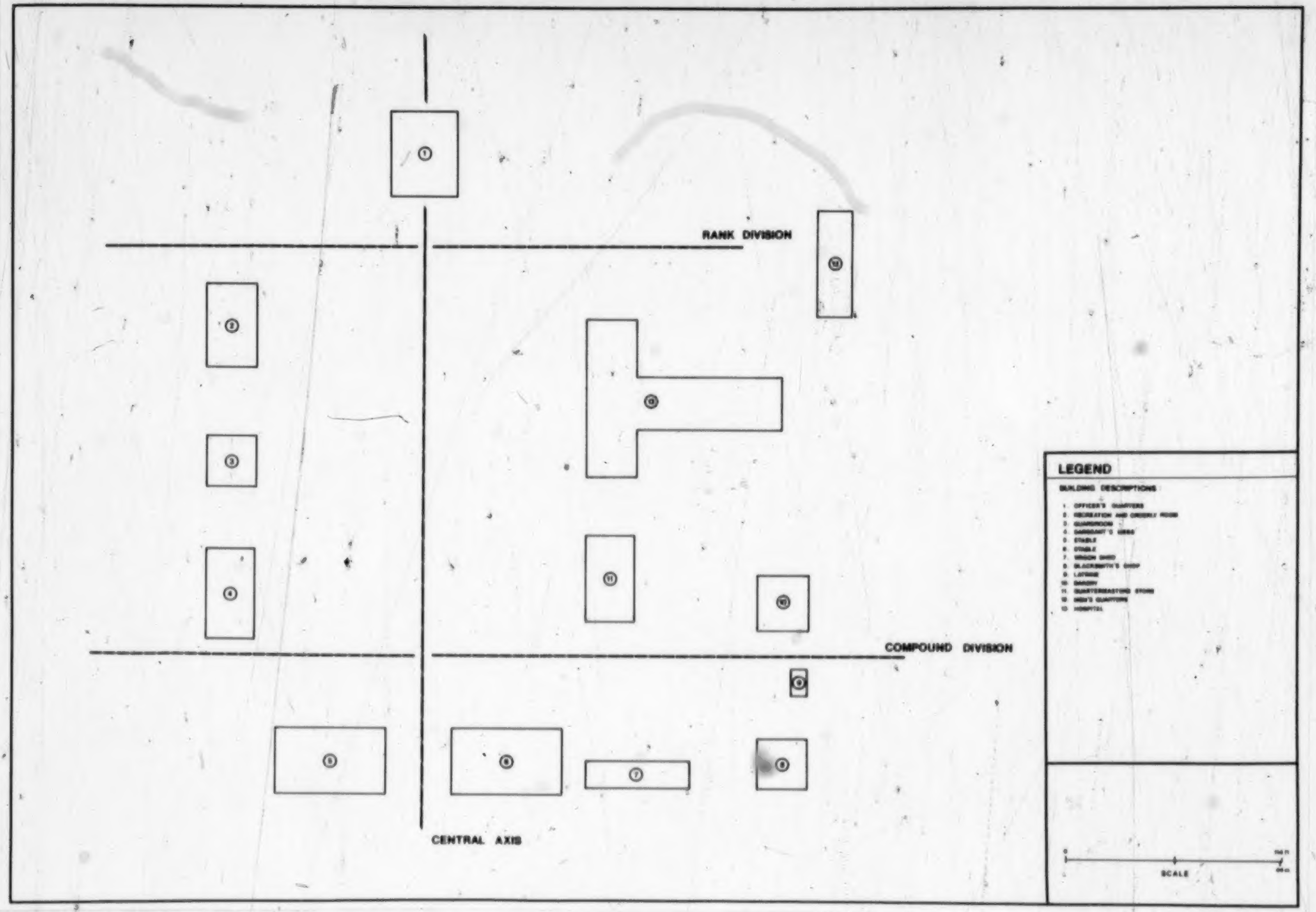

RANK DIVISION
COMPOUND DIVISION
CENTRAL AXIS
1
2
3
4
5
6
7
8
9
10
11
12
13
LEGEND
BUILDING DESCRIPTIONS
1. OFFICER'S QUARTERS
2. RECREATION AND ORDERLY ROOM
3. GUARDROOM
4. SERGEANT'S MESS
5. STABLE
6. STABLE
7. WAGON SHED
8. BLACKSMITH'S SHOP
9. LATRINE
10. BAKERY
11. QUARTERMASTER'S STORE
12. MEN'S QUARTERS
13. HOSPITAL
SCALE
0

Figure 28. Ground plan of the N.W.M.P. post at Maple Creek, Saskatchewan (source: Canada. R.N.W.M.P. 1973b; Report 1883:appendix C).

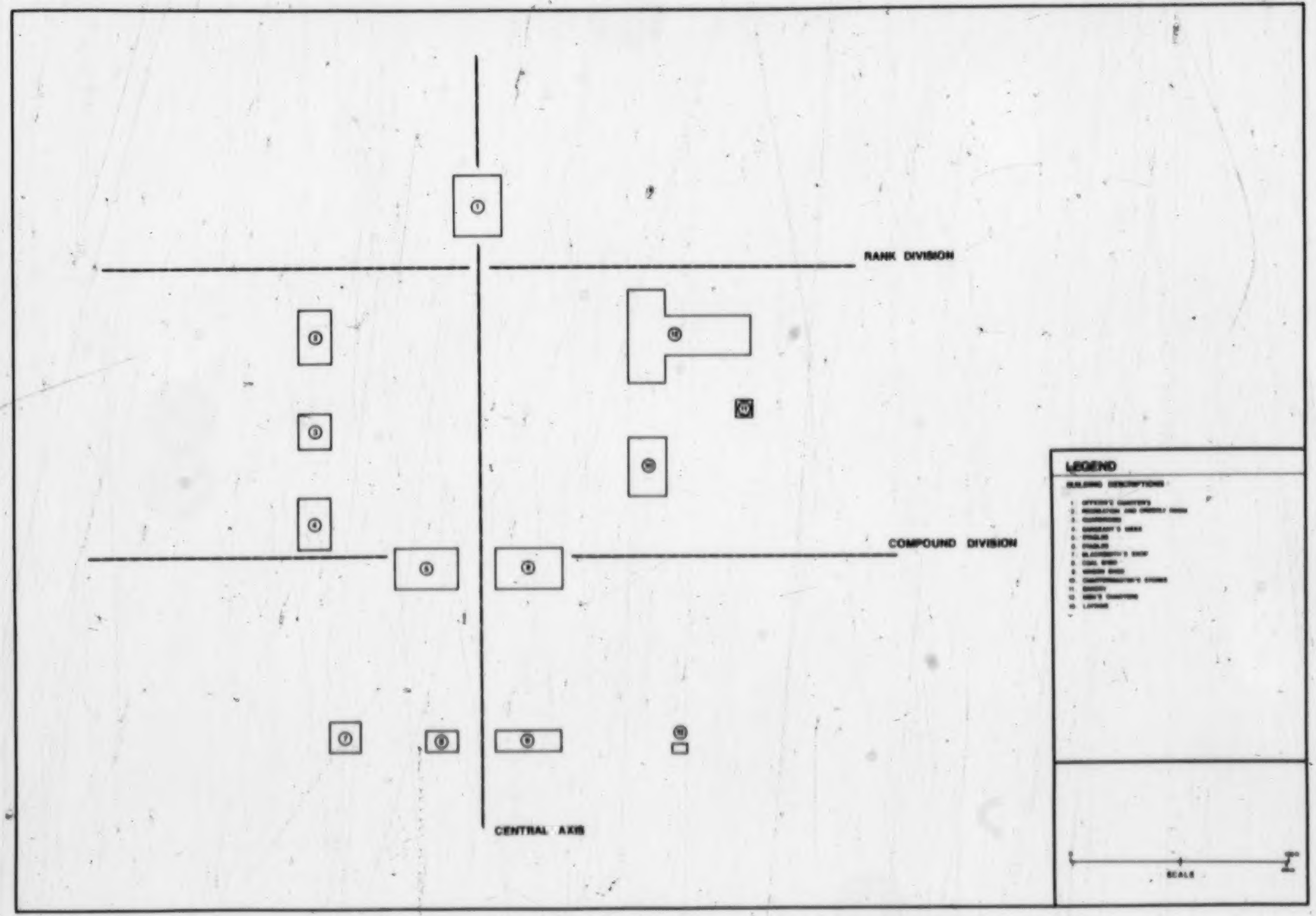

RANK DIVISION
COMPOUND DIVISION
CENTRAL AXIS
LEGEND
SCALE

Figure 29. Ground plan of the N.W.M.P. post at Medicine Hat, Alberta (source: Canada. R.N.W.M.P. 1973b; Report 1883: Appendix D).

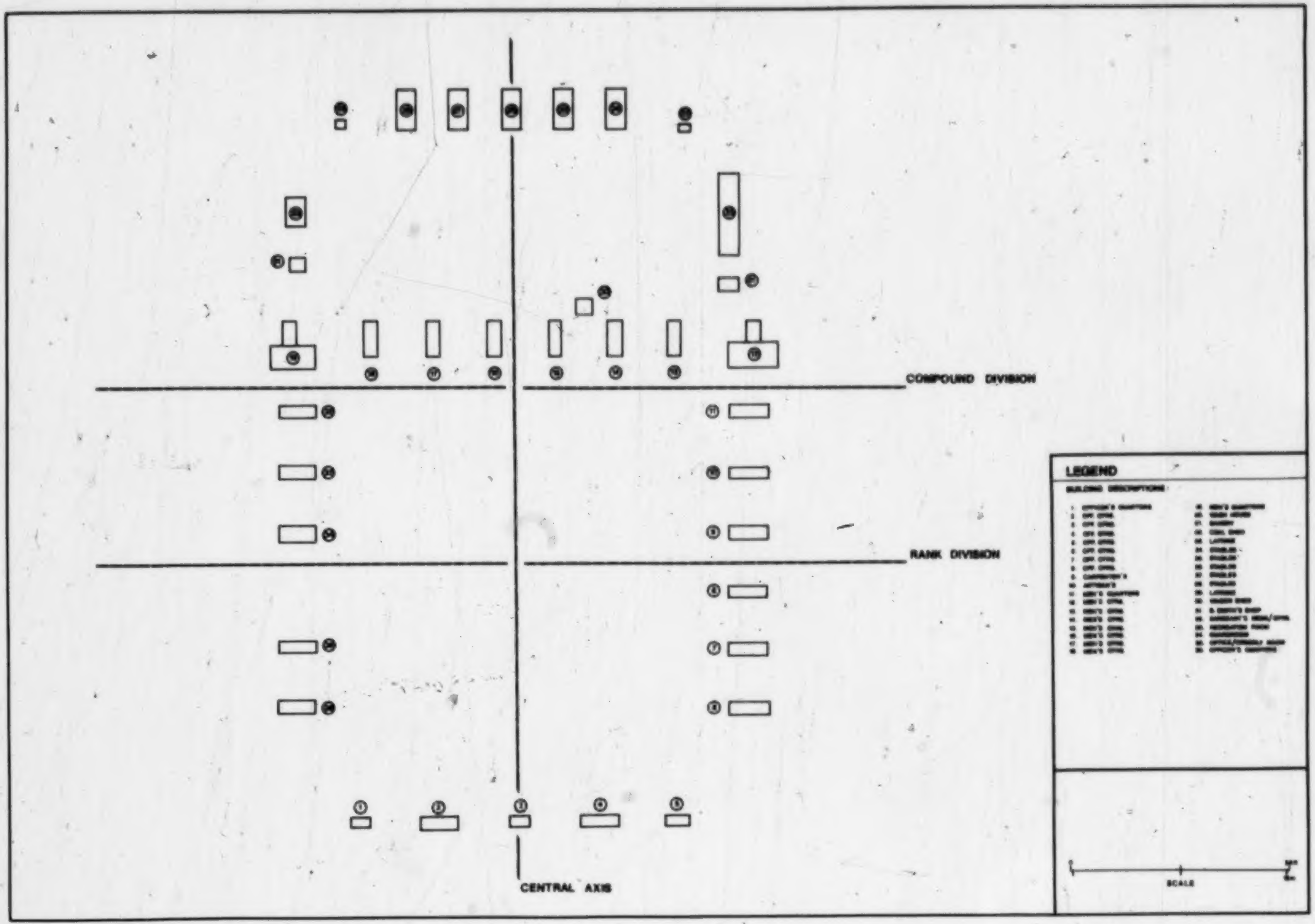

COMPOUND DIVISION
RANK DIVISION
CENTRAL AXIS
LEGEND
BUILDING DESCRIPTIONS
SCALE

Figure 30. Ground plan of the N.W.M.P. post at Regina, Saskatchewan (source: Canada. R.N.W.M.P. 1973b; Report 1883: Appendix B).

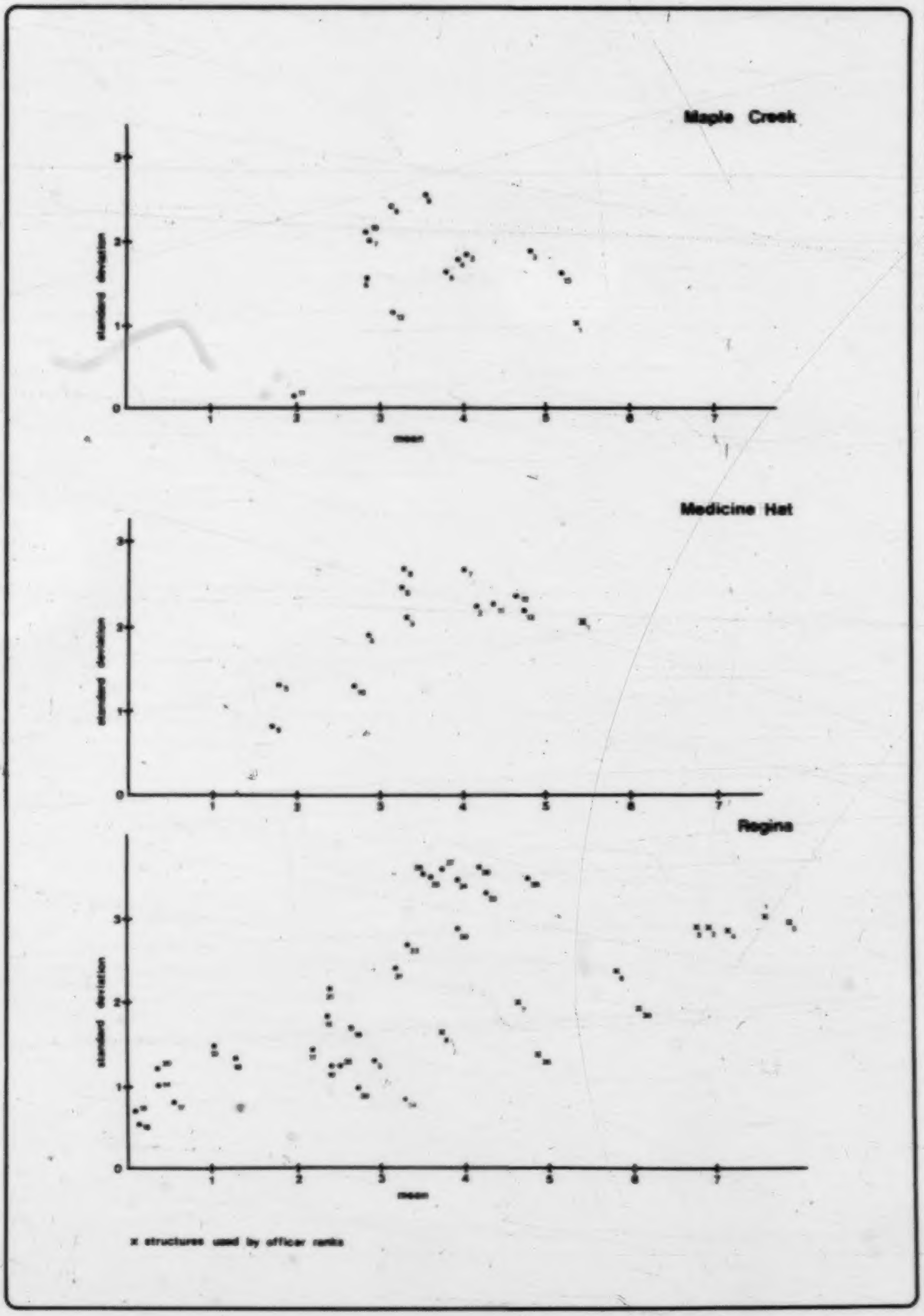


Figure 31. Index of variation on Maple Creek, Medicine Hat, and Regina.

N.W.M.P., and if the 1879-83 plan of Fort Walsh was acceptable, there would have been no need for the police to revert back to the original 1875 design when they initiated construction of their new quarters. This argument, of course, does not negate the possibility that there were other reasons for the N.W.M.P. to abandon and relocate their Cypress Hills post,but it does demonstrate that the built environment was more than a mere passive reflection of these other possibilities.

Summary and Discussion

There are a number of ways in which the spatial configuration described above, when combined with the material manifestations outlined in the last chapter, would have essentially created several smaller bounded communities within the N.W.M.P. settlement. It has already been pointed out that the palisades and bastions contributed to a community identity by physically and visually separating the Mounted Police fort from its frontier context. It would now appear that the police were capable of employing other representations in their built environment which divided their community internally by promoting other distinctions.

By encoding visual representations within their built environment on the basis of rank, the N.W.M.P. were, in a sense, also promoting and contrasting the fundamental socioeconomic distinctions which were perceived to underlie the two groups. Frequency distributions on the backgrounds of the two major ranks in the N.W.M.P. were presented earlier in Chapter five. These graphs indicate that, while both ranks were recruited from English-speaking Ontario Protestant families, a significant proportion of the officer ranks were members of the upper echelons of society (Figure 14). Where officers primarily occupied positions in the professions or military prior to their engagement, enlisted ranks were usually employed in commerce or industry. In other words, the socio-economic structure of the force reflected the ruling bourgeois sector of Southern Ontario, the very sector of Canadian society which most ardently supported frontier expansion.

Differences in the backgrounds of the two ranks were clearly perceived as an important distinction, since social dichotomies were actively maintained by the force. In particular, these differences were encouraged through recruitment practices which guaranteed that officer ranks would continue to be appointed by the central government rather than being promoted from the enlisted ranks. For example, McCullough's (1976:123-77) data indicates that, throughout the first decade of the force's existence, only 22 percent of officer personnel received their commission through promotion from the enlisted ranks.

The material representations encoded in the built environment, through the material and spatial entities, expressed rank symbolically and were yet another method by which the force could actively support rank distinctions. Social dichotomies on their own lack meaning and can be ignored unless they assume some type of physical representation. The material distinctions which were a part of the the three-dimensional form would have allowed the Mounted Police to establish distinct identities which categorized personnel into "we" and "they" groups. These differences, then, allowed the Mounted Police to treat each rank differently, conferring on each a separate set of privileges which would guide the conduct of personnel and further exaggerate the socio-economic differences in their backgrounds. In other words, the material representations encoded in the built environment would have helped the N.W.M.P. to treat the "they" category differently from the "we". It provided support and justification for instituting social distance between the ranks by offering the necessary physical evidence to prove that each group was in fact different.

It should not be surprising, then, that the lower ranks, most of whom were recruited from eastern Canada's lower social classes, should be perceptually associated with the dirt and filth which was synonymous with day-to-day police activities at Fort Walsh. The officers of the force would sometimes feel obliged to remind the enlisted ranks of this association:

> Major Walsh ordered an inspection of the men about ten days after my arrival, and on carrying it out I found the necessity to strongly recommend some of the members of the troop, to wash themselves all over at least once a week with plenty of soap and water [RG 18, vol. 11, file 246/76 Miller to Nevitt, 31 December 1875, as cited in McCullough 1976:132].

The end result of all these factors "was a group of men who had rather definite ideas about the structure of society in western Canada and their place in the structure. The idea of a classless frontier society was completely foreign to the officers of the Mounted Police. They saw the Canadian west as having a definite upper class" in which they were to occupy a prominent position (Macleod 1976a:79).

PART III

CONCLUSIONS

Architecture is information. It is information by virtue of the form and relation of its surfaces, volumes, and included features and by virtue of it being experienced temporally as a sequence of forms, as a process. One moves toward, around, through architecture and in so doing experiences changing morphologies and relationships [Fritz 1978:39-40].

CHAPTER IX

EXPANDING THE SCOPE OF SETTLEMENT STUDIES

> The individual human being, stripped of his humanity, is of no use as a conceptual base from which to make a picture of human society. No human exists except steeped in his culture of his time and place [Douglas and Isherwood 1980:63].

The communications framework presented in this study relies extensively on the archival data base to establish an ideological framework for investigations into settlement formation. This approach acknowledges the space and time dimensions which man imposes on his material formations in his effort to establish the cognitive structures by which the built environment is "read" for clues concerning the social universe. The choice of settlement formation, as set within spatial and temporal dimensions, continuously creates a variety of patterns which "can give play to the full range of discrimination of which the human mind is capable" (Douglas and Isherwood 1980:66). The patterns which a culture creates in its built, three-dimensional form are neither random nor static; but instead, they are deeply embedded within human social purpose.

Initially, it was proposed that the symbolic functions of architecture should have increasing importance in situations of increasing social differentiation. In the study presented here, a review of the historical documentation on the expansion of the Canadian state onto the western frontier demonstrated that the N.W.M.P. were forced into contact with a variety of competing social groups, of which their foremost adversary was probably the American frontiersman. This review suggested that, as far as the Mounted Police were concerned, the contact was underlined by the assumption that the Western Prairie was a hinterland to central Canada both in its economic relationship and in its cultural development.

The economic impetus for Western settlement was largely derived from the expansion of the Eastern marketing system through railway construction. It was proposed, therefore, that the central issue to understanding the role played by the N.W.M.P. and Fort Walsh begins with a recognition of the forces of capitalism on the development of the Canadian nation state. When viewed from this perspective, it became clear that the Eastern bourgeoisie attempted to maintain their dominant position by extending their own concepts of socio-cultural order on the frontier community and by establishing their representatives as members of the new colonial elite. This process required the creation of socially-bounded communities, and the built environment at Fort Walsh was shown to play a significantly active part in the maintenance of these boundaries. Most notable were those which established Eastern Canada's sovereignty over the frontier, maintained the N.W.M.P. as primary agents of the Eastern expansionists, and proclaimed the force--particularly the officer ranks--as an elite part of the new society.

Implications for Future Research

The ideational basis behind human life was dismissed by the "new " archaeology because of its close connections with normative theory. The "new " archaeology favoured Binford's (1965) dictum, which considered the data base of the discipline to be poorly suited for investigating the antecedent events or the "paleo-psychological" attributes of culture. Instead, the "new" archaeology adopted a systemic approach which described culture as being composed of many subsystems. Rather than use settlement data in an inductive approach to the structure and function of past societies, new archaeologists attempted to infer the cultural processes generated from settlement pattern data by the application of ecological models. For the most part, their epistemology demands an independence from historical studies, which they almost universally dismiss as "atheoretical" to the aims of science. There is little sense of archaeology and history working together as part of a wider discipline which, in combination, contributes to an understanding of the past

(Trigger 1978:4). This situation is not surprising since the "new " paradigm was originally conceived from the perspective of the prehistorian. It was implicitly designed to take into account archaeological sites for which historic documentation is not directly amenable to the questions being asked of the archaeological record.

Obviously, Historical Archaeology is doing itself a great disservice to operate upon a similar premise. If anything, the discipline should attempt to design research stratagems which take full cognizance of the documentary sources at its disposal. There is really no reason why Historical Archaeology can not pioneer new efforts that contribute towards method and theory for all types of archaeology.

The research stratagem presented in this thesis represents an initial step in this direction. Minimally, it provides some techniques for pattern recognition in the material and spatial entities of the archaeological data base. It also shows how this patterning can be related to underlying partitions in the socio-cultural system. By applying the method to a similar situation, but one in which historic documentation is nonexistent, it should be possible to delineate an understanding of the ideological context behind the patterning.

Another rewarding aspect to the study of the communicative functions of the built environment lies in the discovery of its relationship to other cultural subsystems. As a means of symbolically transmitting cultural ideologies, the built environment must function independently as a logical system on its own, while at the same time interrelating with all the other parts of culture into a coherent whole. This relationship guarantees that a detailed study of the built environment at Fort Walsh, within a communications framework, provides a basis for understanding other aspects of N.W.M.P. material culture.

Indeed it is now possible to interrelate other Fort Walsh artifact studies which were originally undertaken as background research to site interpretation (see Hamilton 1979, Lunn 1979, and Cumbaa 1978). These studies have identified a number of patterns in the glass, ceramic, and faunal assemblages which appear to correlate with several fundamental socio-economic parameters. For example, Cumbaa's study of the faunal remains indicates some rather important differences in the diet of officer and enlisted ranks. Although beef constituted the largest portion of the diet for both ranks, faunal elements from officer-related contexts were characterized by a higher percentage of meat cuts from the more highly preferred hindquarters. The N.C.O.s and enlisted men, on the other hand, mainly subsisted on chuck and rib portions. The data also indicate both officers and enlisted men were, at certain times, served a variety of imported (canned) and wild meats. However, it is the officer ranks that show not only the greatest variety of species consumed but also a higher percentage of occurrence for these species, suggesting a more varied diet from beef than enlisted personnel.

The Fort Walsh ceramic and glass assemblages also offered a number of interesting observations on the types of products used by the N.W.M.P. While undecorated white and vitrified white earthenware tablewares were predominant across the site, Hamilton (1979:94-101) found that the few more expensive ceramic objects were generally from contexts associated with officer ranks. Similarly, the more expensive beverage types, most notably the alcoholic beverages, were also recovered from areas used by officers (Lunn 1979:74).

Clearly such differences in the patterning of certain artifact assemblages, as correlated to rank, can be partially attributed to differences in rates of pay and the ability to secure goods. But when discrepancies in these assemblages are coupled with other material representations, such as the built environment, as well as with the day-to-day responsibilities of individual members, this repetition in symbolic expression of rank differences would certainly help to enforce social dichotomies where interaction between various ethnic and social groups was frequent. The police may not have been completely aware of the socialization value of all these material representations; however, in some situations there definitely was a conscious decision made to select certain items for their symbolic importance.

This is particularly true of the N.W.M.P. choice of a uniform. Although the Macdonald government promised a police force with as "little gold lace, fuss, and fine feathers as possible", the Mounted Police still designed a uniform which, when in full dress, was largely reminiscent of a British dragoon guard (Morton 1977:30-31). Some military strategists of the period criticized the red serge jacket for its impracticability, citing its expense and unsuitability for Prairie conditions. However, the distinctive style and colour enabled the N.W.M.P. to establish a symbolic distinction between themselves and their American counterpart. In other words, the scarlet tunic provided the visual metaphor by which the police could symbolically express their association with the aspirations of the British Empire, their role as agents of Eastern expansionism, and the unique position they expected to maintain in the new society. It should not be surprising, then, that the first uniform worn by the officers was not considered a favourite simply because it failed to provide an adequate visual distinction of their rank:

> I am told the uniform lately sent is excellent, but I hardly concur in the system of allowing officers to wear the same as the men with the addition of gold lace; it may do for service but I think a neat full dress should be adopted, not costly but such as they could feel becoming their position in soci-

> ety. I believe the officers desire this improvement [Report of Major-General Selby-Smith, 1875, as cited in Turner 1950:244].

Being highly self-conscious of the importance of their position in the new social order, the N.W.M.P. were also greatly concerned with the transmission of their culture's values, especially those values which would ensure the dominance of the Eastern expansionists and the role played by the police as their informal agents. It was pointed out that the Mounted Police were already committed to persuasive tactics as a means of propagating their presence on the frontier. Perhaps then it was only natural that the police would also be conscious of their image and would then look to their material culture as a means of transmitting many of the values they wished to impose on the frontier.

The question that remains, then, is whether different patterns of social integration and segregation can be expected in situations where frontiers were to witness less direct intervention by the central government and where law enforcement was primarily administered at the local level. This consideration invites some interesting comparisons with the American frontier experience. Although such a study lies beyond the objectives of this presentation, it should prove useful to indicate some of the possibilities that a research stratagem based on an analysis of cultural ideologies might include in comparing Fort Walsh to one of its American counterparts.

Since control of law enforcement on the American frontier was held at the local level of government, the legal provisions and the implementation of each system varied from territory to territory and state to state, according to community attitudes and the extenuating circumstances. However, the federal government's presence on the western frontier was usually represented through the United States Army and the offices of the federal marshal. Together they provided federal supervision to unorganized regions under United States control, and assisted local peace officers when federal laws were violated (Sharp 1973:113; also see Prassel 1972).

Some of the similarities between the Mounted Police and the U.S. Cavalry have already been discussed by Morton (1977:31):

> Pay was meagre and often in arrears. Traders at military and police posts were equally rapacious. Barracks were often temporary shacks, ill-constructed, frigid in winter and sometimes unsanitary. Arms and equipment were sometimes obsolete and often inappropriate for western conditions. Political influence in both countries pervaded every sphere of administration, from forage contracts to promotions.

Yet despite their areas of commonality, some fundamental differences also appear. These differences can be traced to the culture's ideological assumptions in regard to its frontier; and, consequently, should find representation in the material basis of the military communities, particularly the built environment. For example, it has been indicated that the selection of a building site for Fort Walsh was a direct outgrowth of the Canadian government's concern for maintaining sovereignty over an area which they felt was facing possible annexation by the United States. American concerns, on the other hand, centred more on its indigenous population. The Canadian frontiersman was not a threat; and, consequently, the American government probably felt less need to recognize the international boundary than they did the threat of a possible hostile native population. This thesis suggests, therefore, that site selection for the American counterparts of Fort Walsh were probably primarily affected by the distribution of the native population and the need to protect the interests of the intrusive pioneer.

Mounted Police outposts on the frontier were small in relation to those operated by the U.S. Army. Waiser (1979: 12-13) confirms that N.W.M.P. strength during the thirteen year period from 1876 to 1889 numbered as few as 335 men and a maximum of 1059 men, Enrollment in the U.S. frontier army during the same period, however, peaked at 25,601 men (Welty 1938:246). This obvious difference in numbers is perhaps indicative of the Canadian government's emphasis on preventive law rather than punitive law, a theme which this thesis has repeatedly shown to underlie the N.W.M.P. presence on the frontier. The small number of Mounted Police naturally precluded their use of force in dealing with the plains Indian. Knowing that they were in the minority, the N.W.M.P. had to resort to diplomatic methods when confronted with a potentially hostile situation. It has been demonstrated that the built environment at Fort Walsh reflected this constraint in the sense that the post was not adequately defensible. The palisades and bastions were little more than a representation of something far more substantial.

On the American frontier relations with the native groups had deteriorated to such an extent that government troops were unable to control the sources of friction, and often felt compelled to protect themselves with large patrols. What effect would this consequence have on the design and construction of the U.S. Army post? What precautions were taken in their selection of a building site? How would the post be defended in the event of an attack? Did they even anticipate such a possibility?

Summary

The major thrust of this thesis has been towards developing a research strategy for the analysis of settlement systems within historical contexts. It presents a framework which is less behaviourally and ecologically oriented than most "new" archaeological studies. It stresses the ideological manipulation of material formations by cultural groups in their attempt to justify and reinforce social strategies. By emphasizing cultural ideologies in this way, it has been demonstrated that the built environment is more than a mere passive reflection of other cultural subsystems. Through the symbolic manifestations encoded in the three-dimensional form, the built environment can, in fact, play an active part in the maintenance of social relations. In this respect, it was shown that the built environment at Fort Walsh was subconsciously manipulated by the North-West Mounted Police to project cultural ideologies concerning social relations. Architectural formations were to play an active part in reinforcing and intensifying the distinctiveness of a variety of frontier social groups. It is suggested that the "new" archaeology has been negligent in its enquiry into ideological schemes. Yet these concerns must be given equal consideration if archaeology is to develop a better systematic understanding of cultural adaptation and change.

The communications framework presumes that the human mind is primary and that it works in an orderly, logical fashion to categorize and divide reality. It is interested in the set of rules that not only give structure to all the individual components in a built environment but which ultimately also bind the formation into a complete system with the socio-cultural context. These rules, like those used in grammar, may be unconscious but are not impossible to perceive through a study of patterned dysjunctions and similarities. The concern is, therefore, not with the origins of the built form but how it was perceived and used in social relationships. By delineating material formations and correlating patterns to partitions in the socio-cultural system, it has been possible to define the underlying rules that governed the use of the built form.

The promise of a communications framework to human settlement studies lies in its ability to place the built environment within the social context. By organizing the three-dimensional form according to its symbolic importance, architecture takes on both active and passive properties, regardless of its immediate function. Of course, not all aspects of the built environment will be equally valuable indicators of their culture's ideational system. Although all features encoded within an architectural formation are considered the product of the human mind, none are necessarily any farther from their cultural base than any other. The socio-cultural context in which they function will define the extent to which they are employed in social relations and, consequently, their importance. For the archaeologist, the more visible and permanent entities of the built environment, particularly the material and spatial entities, can be used to reconstruct how past settlements were perceived and used in social relations. While recognizing that the complete ideational system may not be recoverable through a culture's architectural representations, the principles by which it was organized and structured will be indicated in the three-dimensional form.

Under the paradigm employed here, explanation is "not equated solely with the discovery of predictable law-like relationships but with the interpretation of generative principles and their coordination within relevant cultural contexts" (Hodder 1982b:13-14). Since it is less concerned with cultural laws, the stratagem is likely to be more particularistic in its orientation. This does not mean that a comparative generalizing study cannot be undertaken. The stratagem can certainly be applied to other contexts, but it may not always be possible to predict the type of patterning which will occur. Other social groups in a similar situation may have other objectives in mind, and may actually manipulate their built environment in an entirely different fashion.

Although it may be argued that the development of good scientific research stratagems should not be compelled by methodological considerations, it remains that most of the Historical Archaeology conducted on this continent is initiated under the aegis of the "mission-oriented" cultural resource management agency (Swannack 1975). The research requirements of such agencies usually focus on site interpretation within rather narrow time and space confinements. Under such realities, stratagems which subsume the long-range diachronic perspective usually required of the "new" archaeology are not necessarily conducive to the explanation of the archaeological record at the synchronic, site specific level at which Historical Archaeologists usually work and which is subsumed under the stratagem employed in this study.

In this sense, a contribution of this nature should be of importance to government agencies involved in the commemoration and reconstruction of historic sites on this continent. Such programmes readily collect architectural data as part of their mandate for site development, but seldom interpret the information within a framework involving anthropological concepts.

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APPENDIX

ARCHITECTURAL SUMMARIES

ARCHITECTURAL SUMMARIES

The purpose of this appendix is to provide the reader with a detailed account of the architectural history of each building at Fort Walsh. Of the 46 structures built by the N.W.M.P. during their eight year tenure, a total of 35 have been investigated to some degree archaeologically. Three of the remaining 11 (the icehouse and two root cellars) were located a considerable distance outside the immediate confines of the Fort Walsh palisade; and, consequently, lay beyond the mandate of the archaeology project, at least as defined in the Parks Canada conceptual plan on site development. Access to the remains of the other seven structures could not be obtained since these lay under extant structures built in the early 1940's by the R.C.M.P. as part of their remount station operations. Construction data as gained from archival sources are, however, sufficiently complete on all but two or three of the latter seven structures to venture reasonably accurate (albeit incomplete) statements on their architecture. While some of the descriptions have been abstracted from the excavation reports presented by Sciscenti et al (1976), Murray and Sciscenti (1977), and Murray (1977), others include data that have not been previously reported.

Each summary documents what is known with regard to building design, date of construction, structural utilization, and renovation changes. The building descriptions provide a fundamental baseline from which the analyses of the commemorative and symbolic aspects of the built environment at Fort Walsh have been developed, and are not intended as excavation summaries. For a detailed presentation of the excavation results--including stratigraphy summaries, feature descriptions, and artifact inventories--the reader is referred to the reports cited above. In order to facilitate the discussion, eight broad functional categories have been devised. The building summaries are grouped under these headings according to their utilization at the time of construction. If building functions changed at some point throughout their occupation these changes are noted along with any improvements that may have been also undertaken.

1. **Palisade Gates and Bastions**

Structures listed under this heading formed part of the complex that was used by the N.W.M.P. to enclose and delineate the immediate perimeter of Fort Walsh. Although several structures (for example, the enlisted men's latrine, hospital, root cellars, ice house, and quarters for married personnel) were located outside the palisade, the area within the enclosure was the major focal point of police activities. Under the conceptual plan on site development, the palisade also delimits the area which is of primary interest to Parks Canada--that is, as far as its mandate for the development of the site is concern.

Eastern, Western, and Southern Palisade Gates

With the completion of the first construction phase of Fort Walsh in 1875, two major entrances provided admittance to the palisade enclosure. The main entrance, which faced the Fort Benton trail, was located in the eastern palisade between the orderly room and the officers' quarters. The second entrance was situated in the western palisade, opposite the eastern gate; and provided access to the enlisted men's latrines, garden, and Battle Creek.

Although the fort underwent considerable expansion and renovation during its eight year occupancy, the eastern and western gates remained the primary entries into Fort Walsh. This situation can be partially attributed to the fact that, unlike the northern and southern palisade walls, the eastern and western palisades were never dismantled or remodelled.

For a brief period after 1879 a third entrance to the fort was built into the southern palisade. Apparently, when the southwestern corner of the compound was expanded in 1879 to accommodate the construction of a new stable (building 43, Figure 11), there was a period when the structure was only accessible through a gate in the southern palisade. An older stable (building 12, Figure 9) effectively partitioned the expanded southwestern corner of the fort from the main compound, forming as it were two distinct stable yards. In late 1880, Commissioner Irvine ordered the older building demolished; thereby making the stable area one compound again (P.A.C. RG 18, vol. 2185, pp 12-15, as cited in McCullough 1977:174-175). With the demolition of the older stable, the southern palisade gate was not required. Although Irvine was aware of this fact, it is not clear from either the archaeological evidence or the historical data if the gate was eventually removed (Sciscenti et al 1976:25-42). Certainly, Irvine would have had every reason to close the entrance permanently since several members of the force had used the gate in a late night bid to desert their post. By permanently closing the gate, the night sentry would have been able to supervise the compound more closely.

Archaeological evidence on the eastern and western gates was, fortunately, more conclusive (Murray 1977:82-86). The data indicate that construction methods for both gates were basically similar. For example, both features were delineated archaeologically by a space in the palisade footing trench, 4.3 m wide at the eastern gate and 4.0 m wide at the western gate. In both cases, the space was framed by a single, stout, unshaped, skinned log that measured higher than the palisade itself. The police apparently took extra precautions to secure each frame post against the weight of the doors by setting the log into an extra deep footing that was dug 0.90 m below the palisade footing grade. The bottom of each post was also cross-braced with a T-bar and struts that were set perpendicular to the palisade alignment. The top section of each frame post was further supported by a heavy prop which appears to have been attached to the interior side of the post by a gusset plate and to have been anchored to the ground about six feet from the base. A log arch over the entrance opening completed the arrangement. The arch was probably also attached to the top of each gate post by the same gusset plate.

Both gates were fitted with double doors built from heavy planking. The doors measured the same height as the palisade, and were supported with heavy iron hinges that were set to swing inward. The northern door on the main (eastern) gate was constructed with a small door large enough to allow the passage of one person at a time (re "Old Fort Walsh" by J. P. Turner in research file on Fort Walsh at Liaison Branch, R.C.M.P. H.Q. Ottawa, as cited in McCullough 1976:282-292).

Visually, the extra height of the gate framing posts and arch above the palisade wall would have focused attention on the gates. Perhaps more than any other architectural feature at Fort Walsh, the palisade gates would have given the police, or perhaps more correctly the officers, control over interaction between members of the force and the outside frontier community. An open gate would have been an open invitation for the public to enter the fort compound at their own discretion. A closed gate physically curtailed the outsider's access to the post and directly limited interaction between the two communities.

Southeastern Square Bastion

Contemporary photographs and sketches of Fort Walsh, dating from the initial stages of construction to late 1878, document a square-shaped bastion at the southeastern corner of the palisade (see Figures 8 and 16). Other than these few accounts, historic documentation on the structure is very limited. As well, archaeological investigations have proven equally disappointing since much of the original building site had been disturbed by activities attributed to the recent reconstruction of the palisade (Sciscenti et al 1976:25-43). The excavations did, however, precisely locate the structure in relation to the 1875 palisade; but provided no information as to whether the bastion was constructed with an upper arms firing platform or whether it had been put to other uses, as in the case of the circular bastions built later (see below).

The structure was apparently built with walls of upright logs which were set in a footing trench measuring 0.30 to 0.52 m wide and 0.80 m deep. The logs themselves measured slightly longer than those used in the palisade with the result that the bastion wall projected several feet higher. As first constructed, the walls were offset approximately 3.5 m from the regular alignment of the palisade in order to provide an unobstructed view down the southern and eastern sides of the fort enclosure. This arrangement was altered just two years later when the fort compound was expanded to the southeast to include a small alcove for the commissioner's residence (see Figure 9).

Northwestern and Southeastern Circular Bastions

Archival data on the circular bastions at Fort Walsh is quite limited and often conflicting. Despite this problem, the documents at least provide an indication as to their date of construction. Correspondence from Commissioner Irvine to the Comptroller of the force indicates construction of the bastions was initiated sometime in early May 1879. At this time the basic layout of the post was also remodelled and an older square bastion dismantled (compare Figures 9 and 11; also see P.A.C. RG 18, vol. 2232, pp 380-382, Irvine to White, 18 May 1879, as cited in McCullough 1976:157-159).

Archaeological investigations of the two bastions confirmed that the structures averaged 7.2 m in diameter;

and were constructed from upright, pre-stripped, and pre-cut coniferous logs. The logs were set to form a double row in a footing trench that averaged 0.60 m wide and 0.70 m to 1.27 m below ground surface. The posts of the outer wall were generally spaced from 0.03 m to 0.20 m apart, and were set against the face of the footing trench. The posts of the inner wall were usually situated either between or directly behind the outer posts. Although the size of the logs used in the two walls varied considerably, the posts that constituted the outer wall were, for the most part, slightly larger, averaging 0.14 m to 0.30 m as compared to 0.12 m to 0.18 m. Larger corner posts measuring approximately 0.30 m in diameter were also used to connect the bastions to their respective palisades.

As documented in chapter 7, logs of 36, 40, and 44 foot lengths were used in the construction of Fort Walsh, with 40 foot lengths predominating. These were usually cut into sections of equal length, such as halves or thirds, in order to construct building walls. If 40 foot logs were cut in half and set into a footing trench averaging 1.0 m in depth, the bastions walls would then measure 15-17 feet above the ground surface. This is the height recorded for the bastions in one contemporary newspaper account:

> [Fort Walsh comprises] a square, enclosed by a stockade ten feet high, with covered bastions sixteen feet high at the north-west and south-east corners...[Manitoba Daily Free Press, May 21, 1880:1].

It is interesting that the above account should describe both bastions as roofed structures since the contemporary photograph clearly shows the northwestern structure without a roof. The photograph also conflicts with an 1881 diary notation which records oats being stored in both bastions (see McCullough 1976:188). Presumably the oats, which would have been shipped from Fort Benton at considerable expense, would not have been stored in an unroofed structure where exposure to the weather would cause rapid spoilage.

Initially, the recovery of shingle fragments in archaeological contexts associated with both bastions would appear to substantiate the conflict in the historical data. In an effort to clarify the question further, however, Sciscenti and Murray (1977:12-13) also undertook a comparison of the different nail types found during the excavations. Their analysis indicated a considerable quantity of 1 inch and 1½ inch machine cut, square headed, nails. These nail sizes are usually only found at Fort Walsh in significant numbers at building sites known to have had shingled roofs. Their analysis further established a high positive coefficient of similarity (0.87) between the two bastions, suggesting the two structures were probably roofed in a similar manner.

Historical and archaeological information do not indicate the construction of a ground level floor in either bastion. In the northwestern bastion, backdirt from the footing trench had been used to level the grade in the north-northwestern portion of the building site. Instrument readings on top of this deposit showed only a 0.05 m variation from the remainder of the ground surface within the structure.

There is also no archaeological evidence to suggest the construction of a support system or braces for an upper firing platform as proposed by Soucy (1975:51-64). Therefore, it can be concluded that, if an upper floor was added to the bastion, the feature would have had limited weight capacity and could only have been used for the firing of small arms. However, a frequency distribution of square-headed nail sizes indicates that, in comparison to other structures excavated, the bastion had a considerably lower number of size categories which were generally used in floor construction. Since nails were not collected by the police when dismantling the buildings in 1883, the theory of a small arms platform is not sustained by the archaeological evidence. Furthermore, a small arms platform would not have been functional since construction of a roof would have prevented its use for firing over the walls.

The two seven pound artillery guns which were reportedly placed in each bastion during an emergency in 1881 (Turner 1950:607) must have been set at ground level, requiring functional doorways or gunports. Three possible doorways were located during excavation of each bastion. The features generally appeared as a single row of posts in a 0.75 m to 0.90 m wide break in the double post wall. The three or four large posts, which were usually placed in this gap, were uniformly cut off below the level of adjacent post butts. In some cases, a walking surface consisting of packed, grey clay was also found extending across the ground surface outside the single post features, further suggesting use of the gaps as doorways.

Since the historic data indicate the bastions were used as granaries and, as such, were designed to be covered, support for the roof was probably provided by a capping system which was nailed across the top of the wall. Therefore, the photograph which illustrates the northwestern bastion as an unroofed structure must have been taken sometime before roof construction.

2. Residential Buildings

Throughout the N.W.M.P. occupation of Fort Walsh, as many as eight different buildings were built by the police to accommodate personnel. These structures were, of course, not all used simultaneously; and at least three of the older residences were eventually converted to other uses. All the residential buildings at Fort Walsh were strictly segregated on the basis of rank.

Officers' Quarters

Archival references indicate the construction of an officers' quarters as part of the original layout of Fort Walsh (Figures 6 and 16). The building (number 1, Figure 7) was situated along the southern side of the eastern gate, and was oriented with its longitudinal axis parallel with the eastern palisade. As documented archaeologically, the building was composed of two major units, of which the main part measured approximately 10.94 m by 5.47 m and the secondary part or annex measured 7.90 m by 3.65 m. The main structure was constructed from horizontally laid logs, and was divided into three rooms by two interior walls which were also of horizontal log construction and which were saddle-notched into the eastern and western exterior walls. Each room was self-contained in the sense that they were not interconnected by interior doorways. Instead, each had its own separate entrance located in the western wall, facing the central compound. In all cases, the entrances were protected by an enclosed porch. Although post-occupational disturbances to the officers' quarters were extensive, clay was found in some isolated areas above the building floor, suggesting this material had been used as a roofing component. Contemporary photographs indicate the roof was finished with a board surface.

Situated at the southeastern corner of the main building, the annex was more crudely constructed. Its walls were built from upright logs which were spaced so as to divide the area between the main building and the eastern palisade with the latter forming the back wall of the structure. The annex was a two-room building with an entrance to the southern room located in the southern wall and protected by an enclosed porch. Entrance to the northern room was through the northern wall. Once again, there was no indication of a doorway in the interior wall which would have provided an interior access between the two rooms or between the rooms of the annex and the main building. The annex roof is thought to have been a simple shed type which probably drained from the eaves of the main building through the palisade wall.

There is no documentation on the construction of the annex; nonetheless, it is felt that the structure was likely added to the officers' quarters sometime after initial building construction. Certainly, the upright log construction technique is known to have been used at Fort Walsh as a simple method of adding a partition to a log building (see the discussion on the sergeant-major's room in the officers' stores). When the officers' quarters was first built the structure reportedly measured 36 feet by 18 feet, a dimension which corresponds to the main structure (P.A.C. RG 18, vol. 7, file 393/75, Walsh to Richardson, 28 August 1875, as cited in McCullough 1976:130). Historical documents indicate that the force was under considerable pressure to provide proper billeting facilities for officers when the extra division was transferred to the post in 1876 (see P.A.C. RG 18, vol. 2232, pp 380-382, Irvine to White, 18 May 1879, as cited in McCullough 1976:157-58). Perhaps the annex was a later addition to the officers' quarters in respond to the need for an expanded residence.

N.C.O.'s Barracks

The construction of a residential building along the northern side of the compound at Fort Walsh dates to August 1875 (building 3, Figure 6). Archival documents from this period orient the longitudinal axis of the structure in an easterly/westerly direction; and locate the building adjacent to the northern palisade, approximately equidistant between the northern stables and orderly room (Figure 16; P.A.C. RG 18, vol. 7, file 393/75, J. M. Walsh to Richardson, 28 August 1875, as cited in McCullough 1976:130). Although the historical documents are not clear as to whether the residence was originally intended for only one rank, the data indicate that by the time of fort abandonment in 1883, the building functioned as the exclusive quarters for non-commissioned officers (McCullough 1976:252-292).

As initially constructed, the residence measured 6.2 m by 19 m (approximately), and was divided into three equal size rooms. Construction details were generally consistent with the methods used for other fort buildings, utilizing both inexpensive local building materials and simplistic design concepts. For example, the walls were built from skinned, unshaped spruce logs which were laid horizontally and saddle-notched at the corners and interior wall intersections. Both the interior and exterior wall surfaces were apparently chinked and whitewashed with a local white clay. Each room was provided with a separate entrance which was positioned in the middle of the room, along the southern wall; and faced the barracks towards the central compound. Although the floor at first consisted of the hard-packed ground surface, wood boards or planks were eventually added once sawn lumber had become more readily available. Roofing materials consisted of split poles which were strung side by side and covered with a clay insulation. The surface of the roof was finished with vertically-laid planks which were nailed to cross pieces set into the clay insulation and were fitted so as to overlap (Murray and Lunn 1981).

In an effort to improve and expand the existing facilities at the post and to meet the increase in personnel resulting from the transfer of force headquarters to the fort, several modifications to the 1875 building were apparently undertaken. Two large rooms were added to the western side of the barracks (building 29, Figure 9), and a small shed-type kitchen (building 31, Figure 11) was constructed at the northeastern corner (Murray and Sciscenti 1977:19-38, 118-131). As well, windows were cut into the back wall of each room; and ventilators were placed in the roof in an attempt to upgrade the quality of the air circulation (Canada, R.N.W.M.P. 1973a, Report 1879:30).

Enlisted Men's Barracks

As first constructed in 1875, residential accommodation for enlisted ranks was originally placed in a three-roomed structure (building 15, Figure 7) that was built along the southern palisade. This construction can be confirmed by comparing Superintendent Walsh's letter on the progress of fort construction to Nevitt's contemporary sketch which shows the N.W.M.P. post under construction (P.A.C. RG 18, vol. 7, file 393/75, Walsh to Richardson, 28 August 1875, as cited in McCullough 1976:130). As delineated through archaeological investigations the barracks measured 16.9 m by 5.9 m, and was constructed with horizontally-laid log walls. The structure was divided by two interior horizontal log partitions into three equal size rooms (Sciscenti et al 1976:64-99). When first constructed the floor of at least one of the rooms merely consisted of the bare ground surface (Murray 1979:3-5).

As documented in contemporary photographs and as confirmed through archaeological excavations, the barracks was constructed with a clay roof which was finished with a vertically-laid board surface. Each room was also provided with a centrally-located door along the northern wall of the structure which oriented the barracks towards the central compound. There was no evidence to suggest that the interior walls also featured doorways which would have interconnected each room.

Plans of Fort Walsh drawn by retired members of the force and presented by McCullough (1976:252-292) suggest that the function of the barracks changed at some point to provide space for division and officers' stores. Artifact inventories from the two eastern rooms were found to reflect this change in that they showed fewer personal items, toiletries, and clothing parts than other barracks (Sciscenti et al 1976:140-251). Although the date of the change is not specifically documented, it is assumed to have occurred with the 1879 construction of the larger barracks (building 41, Figure 11) to the south. This date also coincides with the period when there was a reduction of personnel at Fort Walsh to almost half, and presumably reflects less need for billeting requirements. Several of these plans also show the sergeant-major's quarters as a separate entity along the eastern side of the officers' stores. This separation was delineated archaeologically as a northerly/southerly aligned wall, constructed of vertical logs. The posts averaged 0.07-0.15 m wide, and were set 0.25 m below the floor level. The logs were, for the most part, considerably smaller than those used in the superstructure. This fact suggests that the wall was not load bearing, and functioned only as a partition. Consequently, it is assumed the wall was added as a result of later renovations, possibly during changes to the functional utilization of the barracks in 1879.

N.C.O.'s Barracks Addition

Excavations on the northern side of the Fort Walsh compound uncovered the remains of a two-room structure (building 29, Figure 9) built adjacent to the western side of the non-commissioned officers' quarters (building 3, Figure 9). A comparison of the Delaney (Figure 16) and Millar (Glenbow-Alberta Institute, NA-52-4) sketches suggests that construction of the building was completed in late 1877 or early 1878. This date is also consistent with other historical data which record 1877 as a period of major building activity. The construction was necessary in order to meet the increase in personnel resulting from the transfer of force headquarters to the fort.

Archaeological data indicate the building addition was rectangular in shape, and was constructed from horizontally laid logs which were saddle-notched at the building corners (Murray and Sciscenti 1977:118-131). An interior horizontal log wall divided the building into two equal sections. Although the eastern wall was not excavated, since it was located under a modern reconstruction, it is assumed that the addition was simply built against the original N.C.O. barracks with the two buildings sharing a common wall. A similar method of construction was used in the structural complex along the southern side of the fort compound (building 15, Figure 9); and, in view of the symmetrical arrangement of the post, may have been duplicated here (Sciscenti et al 1976:78-79).

The recovery of collapsed roofing material from depositional contexts above the structural floor confirmed that roof construction probably consisted of vertically-placed poles plastered with mud or clay. White clay deposits aligned parallel to the basal foundations suggested that the exterior and interior wall surfaces were whitewashed. Entrances to both rooms of the building were centrally located in the southern foundation log.

The interior structural layout was relatively simple, with no interior walls or major spatial divisions evident. Pre-construction preparation of the building site seems not to have been undertaken. The structural foundations consisted of the basal wall log set into a shallow trench averaging 0.30 - 0.50 m in depth. Since the trench followed the surface gradient, the feature was not excavated to compensate for the ground slope.

Artifact distributional analyses have suggested the possibility of a variety of functions for the two-room building (Murray and Sciscenti 1977:28-31). A number of artifacts of personal use were recovered from both rooms, including toiletries, jewellery, buttons, coins, and recreation supplies. Since these functional classes suggest residential as opposed to industrial activities, functional utilization would appear to have included use of the structure for living accommodation. As indicated by the documents cited in McCullough (1976:252-292) the living quarters was probably meant for N.C.O. ranks. In the western room a predominance of leather working tools, harness buckles and accessories were also found along with the personal effects, and would appear to support the documentation which suggests utilization of the unit later changed to a saddlery. In addition to the personal effects found in the eastern room, considerable quantities of scrap leather, leather working tools and leather shoe parts were removed from the occupational stratum below the in situ structural floor, indicating functional utilization of this room also changed at some point to include shoemaking activities. Quantities of gun parts and accessories from disposal contexts above the floor suggest activities associated with an armoury or gunsmith. In this connection, in situ artifact materials indicate change in functional utilization of the room appears to have accompanied floor construction.

Enlisted Men's Barracks Addition

Contemporary photographs of Fort Walsh dating to the 1877-78 period show an addition (building 17, Figure 9) to the western side of the original enlisted men's barracks (building 15, Figure 9). The structure is thought to be the "new commodious log barracks" Turner (1950:422) notes in a list of improvements that had been made to the fort by 1878. The improvements were made as a result of an increase in personnel and the movement of force headquarters to the post. Construction of the addition on the enlisted men's barracks also parallels the structure added to the western side of the N.C.O.'s quarters (building 29, Figure 9).

As delineated archaeologically, the eastern side of the enlisted men's addition was simply built against the western wall of the barracks, with the two structures sharing a common wall (Sciscenti et al 1976:64-99). The addition was a two-room structure built from horizontally-laid logs which were saddle-notched at the corners. The single interior wall was also saddle-notched into the northern and southern building walls, and spaced to divide the addition into two equal-size rooms. In total, the building measured 15.7 m by 6.0 m. As in the case of the main barracks to the east, each room of the addition was provided with its own entrance which was centrally located in the northern wall. Roof construction consisted of a clay insulation covered with a vertically-aligned board surface.

As suggested by the ground plans drawn by retired members of the Fort Walsh garrison (see McCullough 1976:252-292), the function of the barracks addition eventually changed. Once again, this change is thought to coincide with the 1879 construction of the larger barracks to the south (building 41, Figure 11). The documentation indicates that both rooms of the addition were converted to baths and washrooms.

1879 Enlisted Men's Barracks

Archival sources indicate the construction of a very large building (number 41, Figure 11) in the southwestern corner of the fort enclosure, as expanded during the 1879 renovations (P.A.C. RG 18, vol. 2232, pp 380-382, A. G. Irvine to F. White, 18 May 1879, as cited by McCullough 1976:158; also see Figure 10). Archaeological investigations confirmed that the structure measured 19.9 m by 9.6 m, and was one of the largest built at the fort (Sciscenti et al 1976:54-63). The building was of horizontal log construction with saddle-notched corners, and was oriented with its main axis in a northerly/southerly direction. Other primary documents, largely consisting of reminiscences by retired members of the force, identify a building meeting this description as an enlisted men's barracks (see McCullough 1976:252-292).

Excavation of the enlisted men's barracks generally indicated that the structure was a more sophisticated construction than other residential buildings. However, despite these improvements, the data still suggested an overall lack of concern for long-term structural durability. For example, unlike other residential buildings at Fort Walsh, the N.W.M.P. built the 1879 enlisted men's barracks with a steep "A" frame shingle roof. This more expensive roof construction method would have certainly alleviated the leaking problems experienced with the other barracks, and would have added to the comfort of the residents. As well, the relatively steep surface gradient in the area of the building site was compensated by cutting the foundation logs into the up-slope eastern side of the building and by setting the down-slope, southern and western walls on a raised ridge. In this way, the structure was set above the depression which interrupts the natural drainage pattern, with the foundation ridge virtually acting as a dam. While this arrangement may have deflected runoff around the structure, there would have been some rotting of the basal logs which had been set into trenches or wherever they came into contact with the ground surface. Raising the floor off the ground in the more lowly southern section may have levelled the structure, but it would have also presented problems for insulating the crawl space under the floor. Apparently in an attempt to alleviate this situation, yellow clay was packed against the eastern and southern walls. However, contact with the clay would have only contributed to further rotting of the foundation logs.

As sketched by Malcolm Millar in 1881, the barracks was apparently provided with at least four windows along its eastern wall (Glenbow-Alberta Institute, NA-52-4). Presumably, the entrance to the structure would have been also located in this wall; and would have oriented the barracks to the residential compound. Unfortunately, no evidence was found during archaeological investigations to confirm window or door placement (Sciscenti et al 1976:99-113).

Commissioner's Residence

Administrative problems resulting from the arrival of 4,000 American Sioux on the southwestern Canadian plains in 1876 caused the N.W.M.P. to double the size of their garrison at Fort Walsh. This action was taken to meet the perceived threat the American Indians presented for the preservation of peace. Even with this increase the police found that such a sudden influx in the native population increasingly demanded a greater proportion of their attention; and, in the summer of 1878, they transferred force headquarters to the fort. Even before the transfer was officially in effect, senior personnel visited Fort Walsh frequently and for long periods. By January 1878, Assistant Commissioner A. G. Irvine had already been directly assigned to the post as its senior officer. Presumably his residence was built at this time, or possibly earlier, in anticipation of his arrival (McCullough 1977:144). Just two years after his transfer to Fort Walsh, Irvine was promoted to the rank of Commissioner; and, in this capacity, he continued his residence at the post until the order for its abandonment in 1882 (Letourneau 1978:8).

The residence built for Irvine at Fort Walsh (building 26, Figure 9) was originally placed in a small alcove that extended from the main palisade enclosure at the south-eastern corner. The building was a rectangular-shaped structure, measuring 6.3 m by 3.2 m; and was constructed of horizontally laid logs which were saddle-notched at the corners. It was divided into three rooms by two interior horizontally-laid log walls that were also saddle-notched into the northern and southern exterior walls. The main entrance to the building was centrally located in the northern wall of the middle room, and oriented the structure towards the eastern side of the fort compound. Windows were situated in the northern wall on each side of the door and in the middle of the eastern and western rooms (Figure 19).

The roof of the Commissioner's residence appears similar to those of other residential buildings at Fort Walsh (Figures 8 and 10). A central ridge pole connected the peaks of the two end gabbles; and separate, parallel, stringers flanked the ridge on each side, about equidistance between the eaves and the peak. Split poles were set tightly together, at right angles to the stringers and ridge. A mixture of clay and straw was plastered over the poles, and probably not only provided some insulation from the cold but also protection from the rains. The surface of the roof was finished with wide boards that were fitted in a board and batten style. Possibly in an effort to insulate the building from northern winds, the lower portion of the northern wall was banked with earth and a wood vestibule of upright logs enclosed the front door (Murray 1980:14-24).

3. Kitchens and Messes

Although the enlisted men were required, on several occasions, to take their meals in their barracks, this arrangement was not considered the ideal or normal. Such situations usually only prevailed during periods of overcrowding occasioned by major troop transfers to the post. Wherever possible, the N.W.M.P. built separate structures which could be used for the preparation and consumption of food. As the building descriptions in this section indicate, all food preparation was initially undertaken in one structure (building 14, Figure 7). Throughout 1878-80 this activity was gradually segregated on the basis of rank with the construction of separate kitchens for the N.C.O.'s (building 31, Figure 11), officers (building 32, Figure 11), and Commissioner (building 33, Figure 11).

Kitchen/Mess Hall

In one of his first progress reports on the construction of Fort Walsh, Superintendent Walsh references the completion of a kitchen/mess building that measured approximately 36 ft by 18 ft (building 14, Figure 7). The contemporary sketch by Nevitt locates the structure in the southern half of the compound and, along with the stores building (number 4, Figure 7), divided the enclosure into separate stable and residential areas (Figure 6).

Archaeological investigations more or less confirmed the building dimensions cited by Walsh, and further indicated that the structure was constructed with horizontally-laid log walls (Sciscenti et al 1976:54-63). A cobble path adjacent to the mid-section of the eastern wall was analogous to similar features found outside the main entrance to several other structures at Fort Walsh, and suggested the possible location of the main doorway. This placement would have oriented the structure towards the larger compound. A second entrance located in the middle of the southern wall is documented both archaeologically and in Nevitt's historic sketch (Figure 6; Sciscenti et al 1976:59).

Soon after construction in late 1876 or 1877 the roof of the kitchen/mess hall was rebuilt with a higher pitch and was shingled. Although not documented, it is possible this operation was undertaken as a result of changes in building function, possibly to a store room. Archival records suggest that by 1878 increased billeting pressures, as a result of personnel transfers to the fort, necessitated using the structure as a barracks. It was at this time that the cookhouse (building 21, Figure 9) was added to the southern end of the building. Although the data is not totally clear, it would appear that the building was converted back to a mess hall sometime before its dismantlement in 1883. This inference is based on the recovery of a large number of ceramic tableware fragments in depositional contexts above the building floor during archaeological investigations. It is also based on the assumption that most of the refuse from earlier activities would have been removed from the building site during the clean-ups that the police are known to have instigated on a regular basis. In other words, the tableware items are thought to be more of a reflection of building activities at the time of abandonment rather than during the initial stages of building occupation.

Cookhouse

Historic photographs of Fort Walsh which date to the 1878 period (for example, see Figure 8) clearly indicate the construction of an extension (building 21, Figure 9) to the southern end of the enlisted men's kitchen/mess hall (building 14, Figure 9). As documented by Superintendent Walsh the latter building originally measured the same size as the stores building (number 4, Figure 9), but is depicted in the

1878 photographs to be considerably longer (P.A.C. RG 18, vol. 7, file 393/75, J. M. Walsh to Richardson 28 August 1875, as cited in McCullough 1976:130). As well, the roof line at the southern end of the structure not only shows a minor change in alignment but also a lighter colour in the surface tone, suggesting the shingled surface had not weathered to the same degree as the rest of the roof (Figure 8). One contemporary photograph also shows an open gable at the southern end, indicting the addition was actually still under construction at the time of the exposure and had been added after the roof of the main structure had been raised and shingled (R.C.M.P. H.Q. negative number 266). Archaeological investigations confirmed that the 4.2 m by 6.0 m extension had been built with horizontally laid log walls which were simply set against the southeastern and southwestern corners of the main building.

Various plans of the fort layout which were drawn by retired members of the force and collated by McCullough (1976:252-292) generally do not show the cookhouse as an extension of the southern end of the kitchen/mess hall. Instead, the drawings usually suggest that the cookhouse was a free-standing structure located further south and west. Since archaeological investigations failed to identify a building in the area suggested by the documentation, it has been concluded that their reminiscences are in error and the cookhouse was actually located in the building extension at the southern end of the kitchen/mess hall.

Artifacts recovered from the building site generally confirm use of the structure as a cookhouse. The excavated material included articles related to cooking and food preparation activities, such as glass sauce bottles and cutlery. The recovery of butchered animal bones in the vicinity of the site and the close proximity of the enlisted men's mess hall further substantiates use of the structure for food preparation.

Kitchen Annexes on the N.C.O.'s Barracks and Officers' Mess

Documentation on the construction of annexes (buildings 31 and 32, Figure 11) at the northwestern corners of the N.C.O.'s barracks and officers' mess does not exist. The buildings were located in the open area bordering the northern side of the fort compound. Since this space was not incorporated into the area of the fort enclosure until the 1879 dismantlement and relocation of the northern palisade, construction of the annexes must also date to this period, or possibly even later. Although the function of either annex is not recorded, it is inferred that the buildings were probably used as kitchens. Certainly, there is a precedent for this type of arrangement at the site. Similar structures built onto the hospital and barracks/mess hall were used for such purposes. The proximity of the officers' annex to the officers' mess and the N.C.O.'s annex to the sargeant's mess would appear to substantiate this conclusion (see McCullough 1976:282-292).

As documented archaeologically, the N.C.O.'s kitchen annex was roughly rectangular in shape, measuring 5.1 m by 4.3 m (Murray and Sciscenti 1977:118-130). The exterior walls were constructed from horizontally-laid logs which were saddle-notched at their corners and chinked with a mixture of clay and sand. As with the hospital annex, a small enclosed vestibule connected the kitchen with the main structure. A 1.4 m space in the western wall, 0.6 m south of the northwestern corner, demarcated an entrance to the structure. The doorway was apparently also framed on each side by upright posts and, to the exterior, by a small open porch. Data on roof construction, unfortunately, is inconclusive. However, because of the position of the annex relative to the N.C.O. barracks it is felt that the roof was probably constructed with a single slope. Nail types recovered from the excavations suggest the roof was possibly finished with a board surface rather than shingles.

As with the annexes built onto the hospital and Commissioner's residence, no direct archaeological evidence was uncovered to indicate the methods used in the wall construction of the officers' annex. Despite this problem, it was estimated that the building was probably square-shaped, measuring 4.0 m on each side. This estimation is based on the positioning of whitewash wall spill and the orientation of the floor joists. The absence of the foundation footing trench common to buildings of vertical log construction indicates that the annex walls were probably not of this construction type. On the other hand, there was also no indication of the *in situ* basal wall log that is usually indicative of buildings constructed from horizontally-laid logs.

The proximity of the officers' annex to the main building suggests the structure was built with a shed type roof which sloped down from the eaves of the officers' mess. Because of disturbances to the historic deposits, it could not be determined if a clay mud plaster had been used in roof construction. Shingle nails were not recovered from the excavations; it would, therefore, appear that the roof was at least finished with a plank surface. The entrance to the annex is thought to have been centrally located in the western wall. The entrance was not protected by an enclosed porch.

Commissioner's Kitchen

As a result of fort dismantlement practices in 1883 and disturbances from recent utilization of the site by the R.C.M.P., structural data recovered from archaeological investigations of the commissioner's kitchen (building 33, Figure 11) were minimal and incomplete. Excavations indicated the approximate location of the extension in relation to the main residence; but provided only inferential evidence on building dimensions, methods used in construction, and architectural detail. Unfortunately, the structure is also not documented in the archival records on the fort.

The Commissioner's kitchen was roughly rectangular in shape, measuring approximately 4.40 m (north-south) by 8.5 m (east-west). White clay spill identified the approximate location of the southern and eastern walls, and also suggested the building had been whitewashed. No archaeological evidence was uncovered to indicate methods used in wall construction or techniques used to attach the kitchen extension to the main structure.

The thin layer of clay found overlying the building floor suggested the material may have been used in roof construction. Data on methods used to finish the roof surface, however, are conflicting. A comparison of nail distributions from buildings historically documented with shingle roofs suggested that if the commissioner's kitchen was shingled a larger frequency of small nail sizes would be expected. However, non-shingled roofs at Fort Walsh generally had a greater quantity of clay overlying the foundations. The proximity of the kitchen to the commissioner's residence suggests the extension was probably built with a shed type roof which sloped from under the eaves of the main building.

Other architectural features recovered during archaeological investigations included a subterranean storage box or cellar, located slightly north of the longitudinal axis, in the centre of the room. The box measured approximately 1.15 m square; and had been set into a slightly larger pit, 0.60 m below the floor of the kitchen (Murray 1980:24-33).

Artifacts recovered from the floor of the subterranean box included a glass tumbler, several liquor and medicine bottles, four Dundee marmalade containers, and approximately four metal containers. Since all the material recovered was either complete or at least 95 percent whole, it would appear that the artifacts were part of a primary deposit and had been left in their original use area prior (or during) structure abandonment. All the artifacts were food-related, and confirm used of the extension as a kitchen. This conclusion is also consistent with the functional interpretation made of other building extensions at Fort Walsh. Similar structures to the Commissioner's extension were excavated at the N.C.O.'s barracks (building 31, Figure 11), hospital (building 39, Figure 11), and officers' mess (building 39, Figure 11). These other structures are thought to have served as kitchens and steward quarters; and, if other ranks were provided with such facilities, then presumably a similar building may have been added to the commissioner's residence (Murray and Sciscenti 1977:118-130; Murray 1977: 34-44).

The investigations indicated that the projected alignment of the southeastern corner of the commissioner's kitchen partially overlay a privy pit (building 27, Figure 9). This relationship suggests that the kitchen could not have been built without the prior dismantlement of the privy. Archaeological research has confirmed that the commissioner's second privy (building 34, Figure 11), which was located to the west of his residence, was not built until after the 1879 expansion of the fort's enclosure to the southwest (see Murray and Sciscenti 1977:82-92). If it can be assumed that the privy located behind the commissioner's residence was probably not dismantled until the second structure was built in 1879 or 1880, then the construction of the kitchen extension must also date to this period or later. The kitchen extensions on the N.C.O.'s barracks and officers' mess are also thought to have been built during the 1879-80 renovations (Murray and Sciscenti 1977:118-130). Perhaps all three kitchens were constructed at the same time as part of an attempt to expand and segregate fort facilities on the basis of rank.

4. Privies and Latrines

Throughout this thesis the terms "privy" and "latrine" have not been used interchangeably but have been given rather restricted definitions, as based on their usage in historical records. "Privy" generally refers to a small structure that permits usage by only one person at a time. A "latrine", on the other hand, is much less private, allowing several people to use the structure at any one given moment.

For the most part, the privies and latrines at Fort Walsh are not well documented in the archival records. With the exception of a few brief passages in the daily journals and the surgeon's year-end report, these structures were generally not mentioned as part of the day-to-day operations of the post. As determined from the archaeological investigations, the privies and latrines at Fort Walsh were of similar construction . All were built with simple earthen pits that were neither shored nor lined. Although "earth closets" were fashionable at this time and were even recommended by the surgeon as a means of improving the health of personnel, such structures were never built by the police (Canada, R.N.W.M.P. 1973a, Report 1879:34).

Southwestern Privy

Archaeological investigations located an undocumented privy in the southwestern corner of the 1875 palisade. The building walls were a vertical log construction. The logs averaged 0.20 m in diameter (at the ground surface), and were set upright in a 0.30 m wide footing trench which had been excavated 0.35 m below the 1875 contact surface. The structure measured 3.7 m by 2.6 m, and was situated with the northern and eastern walls abutting the interior side of the southwestern palisade corner. The latter, therefore, formed the western and southern privy walls. The oval-shaped interior pit, which was centrally located within the four walls of the structure, averaged 1. 65 m by 0.85 m; and had been excavated to 1.5 m below the ground surface. In the centre of the eastern wall, a 0.75 m space in the footing trench and wall post line delineated the building entrance. Because of the proximity of the privy to the palisade, the building was probably constructed with a shed type roof which would have sloped down from the palisade wall. Contemporary historic photographs and sketches illustrate this style of construction for the northwestern privy, the N.C.O.'s privy, and the officers' privy, all of which were also situated adjacent to the palisade (see Figures 10 and 16).

As in the case of other privies excavated at Fort Walsh, no in situ evidence of the methods used to construct a seating arrangement over the pit were observed. Since the pit was probably not left completely open, the seat could have been cross-braced into the building walls; and when the structure was dismantled all evidence of the seat construction was also removed.

There was no archaeological evidence to suggest the construction of a wooden floor on the ground surface around the perimeter of the privy pit. Consequently, it is thought the the building floor consisted of only the bare ground surface. Use of the structure would wear the ground floor considerably and perhaps would also cause the periphery of the unshored pit to break away gradually. This development may then explain the presence of the slumped mass of substrata found in the middle of the fecal layer during excavations.

Northwestern Privy

A contemporary sketch of Fort Walsh by Delaney shows a small structure (building 7, Figure 7) in the northwestern corner of the 1875 palisade enclosure (see Figure 16). The Delaney illustration locates the structure against the western palisade, and shows it measuring approximately two-thirds the height of the latter. Building architecture and construction methods would appear identical to the two structures excavated along the northern palisade and which have since been identified as the N.C.O.'s and officers' privies (buildings 29 and 30, Figure 11). Excavations in this area confirmed the Delaney building to have been also a privy.

The northwestern privy was a rectangular-shaped structure, measuring 2.9 m (east/west) by 2.4 m (north/south). The building was constructed from skinned, unshapened logs, 0.10 m in diameter, which were set vertically in a footing trench averaging 0.36 m in width and 0.45 m in depth. As indicated above, the northern and southern walls of the structure abutted the western palisade, with the latter forming the back wall of the privy.

Archaeological data on the design and construction of building features was minimal, especially in regard to the construction of the privy seat. Data, however, locate a 0.65 m wide entrance in the mid-section of the eastern building wall but provide no indication of the methods used in door construction.

Centrally located within the confines of the structure was a rectangular-shaped pit measuring 0.76 m (east/west) by 1.94 m (north/south). The privy pit was excavated with relatively vertical sides, square corners, and a flat bottom to 1.58 m below the 1880 ground surface.

Within the privy pit, two artifacts were recovered from depositional contexts which date to the period of building dismantlement and crossmend with fragments found in other areas of the northwestern palisade enclosure. In both cases, these other areas are known to have been deposited ed during the period of fort abandonment in 1883. Consequently, the crossmends suggest that the privy was used throughout the entire period of site habitation by the N.W.M.P., from 1875 to 1883 (Murray and Sciscenti 1977:98).

Correspondence from Commissioner Irvine, dated 1881, discusses the escape of a prisoner from a work party in front of the "prisoner's latrine" (McCullough 1976:186). It is possible, therefore, that the privy is the structure referenced by Irvine; and, at least in later years, was used by prisoners.

Enlisted Men's Latrines

Historical documents on Fort Walsh locate the enlisted men's latrine outside the main palisade enclosure near the southwestern corner as constructed in 1875 (McCullough, 1976:260-262, 268, 273, 282-292). Archaeological investigations in the area suggested by the documentation identified two rectangular-shaped latrine trenches (buildings 9 and 35, Figures 7 and 11). Both were oriented north/south; and were situated on the sloping surface, parallel to the terrace edge above the Battle Creek flood plain. The northern trench measured 7.0 m by 1.6 m and the southern trench 5.8 m by 1.3 m. Both features were excavated with vertical sides to 2.5 m into the substrata (Murray 1977:21-30).

Similar to other privies excavated at Fort Walsh, roofing clay was not found in depositional contexts overlying the foundations of either latrine. It is concluded, therefore, that a clay or mud plaster was not used in roof construction; instead, the latrine roofs were probably built with a simple board surface. As well, there was no evidence of floor joists or floorboards uncovered during the investigations. Since excavations elsewhere at the fort have indicated that building floors were not removed during structural dismantlement, the lack of wood floor remains suggests the latrines were not built with this feature. The investigations also failed to locate the latrine wall foundations. These features are usually delineated by linear deposits of clay whitewash and chinking which had fallen to the ground surface during building dismantlement. This absence suggests then that the latrine walls were neither chinked nor whitewashed.

Photographic documents date utilization of the latrines to two separate periods. A close examination of an 1878 photograph locates the latrine further north than the building illustrated in the 1881-82 photo (compare P.A.C. C-19073 with Figure 10). It would appear that the northern latrine trench was probably an earlier structure. Presumably the building was dismantled, the pit backfilled, and a new latrine built to the south. The construction was possibly undertaken sometime during the 1879-80 period when other facilities provided at the fort were being improved and expanded. Prominent among these changes were the construction of new privies for the N.C.O.'s, officers, and commissioner.

Commissioner's Privy

Archaeological investigations during the 1975 field season located the Commissioner's privy and bath house (building 34, Figure 11) immediately west of the commissioner's residence (building 26, Figure 11) in the southeastern quadrant of the fort compound. The data confirm that the facility was built after the 1879 renovation and expansion of the southern palisade (see Murray and Sciscenti 1977:82-92). It would appear that a two-year period must have lapsed between the initial establishment of the commissioner's residence at Fort Walsh and the construction of the privy/bath house. Since lower-ranking echelons are known to have had their own toilet facilities during this period, it was felt that an earlier undocumented privy was possibly used by the Commissioner prior to the construction of the 1879 structure.

Proceeding on this assumption, subsequent investigations in the area immediately behind the commissioner's residence identified a privy pit situated adjacent to the 1877 expanded southern palisade, approximately 6.0 m west of the southeastern stockade corner. Because of its close proximity to the commissioner's residence, it was concluded that the facility was likely used by the Commissioner and probably predates construction of the 1879 privy/bath house. This construction sequence was partially confirmed by stratigraphic deposits which indicate the kitchen annex (building 33, Figure 11) to the commissioner's residence overlay the privy foundations. Presumably the kitchen annex could not have been built without the prior dismantlement of the Commissioner's privy. Similarly, the privy would not have been dismantled without the construction of a new facility, namely the privy/bath house.

With the exception of the privy pit, architectural data was not recovered during archaeological excavations because construction activities by the R.C.M.P. in connection with their remount station had completely obliterated the structural remnants. The investigations indicated, however, that the privy pit was oval-shaped, measuring at its base approximately 1.3 m by 0.7 m, and had been excavated to a maximum depth of 2.0 m below the original ground surface. The position of the pit relative to the southern palisade suggests the structure was a similar construction to other Fort Walsh privies (see Murray and Sciscenti 1977:93-101, 102-110; Murray 1977:2-10; 11-20); that is, the structure was probably built adjacent to the stockade, with vertical log walls and a shed type roof.

Superintendent's/Hospital Privy

Historical documentation on the construction of a privy (building 16, Figure 9) adjacent to the northeastern corner of the superintendent's residence/hospital (building 2, Figure 9) is non-existant. Privy construction can only be inferred from a number of primary and secondary sources. Prominent among these is an 1878 photograph which shows the fort as viewed from the hills to the west (P.A.C. C-19073). Unfortunately, the clarity of the photograph is poor; and although it would appear that a small building was located immediately north of the Superintendent's residence it can not be confirmed with absolute certainty. Archaeological investigations also could not be conducted in this area owning to the presence of extant building foundations dating from the R.C.M.P. remount station. For the purpose of this thesis; it is assumed that such a privy was probably built when the adjacent structure (building 2, Figure 9) was converted in 1877(78) from an orderly room to a residence for the Superintendent and hospital. In 1880 a notation was recorded in the post diary to the effect that the hospital latrine had been cleaned and the smell was very much apparent in the new orderly room (which at that time was in building 24, Figure 9). Since the only other privy in the vicinity of the orderly room was used by officers, it seems reasonable to conclude that the "hospital privy" was probably the structure observed in the 1878 photograph. It is felt that if such a structure did exist it was probably situated adjacent to the palisade, as were all other privy structures at Fort Walsh with the exception of the enlisted men's latrine and the commissioner's privy/bath house. No other architectural details on the structure are known.

Commissioner's Bath House and Privy

Archaeological investigations identified a privy (building 34, Figure 11) situated approximately equidistant between the commissioner's residence (building 26, Figure 11) and the enlisted men's barracks (Murray and Sciscenti 1977: 82-92). Historical data provide no indication of the personnel who may have used the building; nonetheless, it is thought that the privy was probably meant for the use of the Commissioner because of its spatial relationship with his residence. The only other residential buildings with direct access to the privy include the enlisted men's barracks (building 41, Figure 11) and the officer's quarters (building 1, Figure 11). It is unlikely that these ranks used the structure since an enlisted men's latrine (buildings 35, Figure 11) and officers' privy (building 30, Figure 11) have been located in other areas of the fort compound.

Archaeological excavations confirmed that the commissioner's privy was situated directly over a section of the southern palisade footing trench. This was built in 1877 as part of an expansion to the fort enclosure for the construction of the commissioner's residence. Sometime around late 1879 or early 1880, this section of the palisade extension was dismantled and the fort enclosure expanded further to the southwest (McCullough 1976:158). Construction of the commissioner's privy, therefore, must date no earlier than to the period of palisade dismantlement.

The commissioner's privy and bath house was a square-shaped structure, measuring approximately 4.75 m by 4.47 m. The walls were constructed from horizontally laid logs, saddle-notched at the corners; and coated with a with clay whitewash. Unlike other privy and latrine structures at Fort Walsh, the commissioner's privy was built with a wooden floor.

The privy pit was located in the southwestern quadrant of the building; and measured, at the floor surface, 1.6 m (east/west) by 1.4 m (north/south). The walls of the pit were not shored; and sloped slightly inward, with the basal dimensions of the feature averaging 1.2 m by 1.1 m. Once again, in comparison to other privies excavated at Fort Walsh, the depth of the Commissioner's privy was rather shallow, ranging from 0.82 m to 1.0 m below the building floor.

The privy pit accounts for only one-third of the total building floor area. It is therefore thought that, with the extra space available, other private activities may have been undertaken in the structure. The recovery of mirror fragments and cast iron stove parts during the archaeological investigations suggests these activities may have included personal grooming and bathing or washing (Murray and Sciscenti 1977:88).

Officers' Privy

In his description of Fort Walsh, ex-Staff Sergeant Cotter recalls a privy that was used exclusively by officers. He describes the building as being small; and, in an accompanying illustration, locates the structure along the eastern palisade, in the northeastern corner of the expanded 1880 palisade enclosure (see McCullough 1976:291).

Test surface-stripping failed to uncover any structural remains in the area suggested by Cotter (Murray and Sciscenti 1977:121). Investigations did eventually uncover a privy; but the structure was located further west than that indicated by Cotter, along the northern palisade, 7.5 m to 10.9 m west of the northeastern palisade corner (building 30, Figure 11). Since no other buildings were located in the vicinity, it was concluded that Cotter's memory was in error and that the officers' privy was actually the structure documented by the excavations.

The officers' privy measured 2.8 m (north/south) by 3.4 m (east/west). The building was situated with its eastern and western walls abutting the northern palisade, which actually functioned as the back wall of the structure.

Because of its relationship with the palisade, it has been concluded that the privy dates to the period of palisade construction; that is, 1879 or shortly after.

The southern, eastern, and western walls of the privy were constructed from upright posts that had been set into a footing trench measuring 0.3 m wide and 0.35 m deep. The building entrance was represented by a 0.8 m space, centrally located, in the southern footing trench and wall post line. As documented in a contemporary photograph, construction of the superstructure was apparently similar to the privy located against the palisade in the northwestern corner of the fort (building 29, Figure 11). The walls appear to measure about two thirds the height of the palisade, and the roof was built so that it sloped down from the palisade over the southern wall of the privy (see plate 10 in McCullough 1976:63). According to Cotter, the privy contained at least one window, although its location is not identified (McCullough 1976:291).

The rectangular-shaped privy pit was located slightly north of the centre of the structure. The feature measured 2.3 m by 1.5 m, and had been excavated with sloping sides to a depth of 1.75 m below surface. No in situ evidence was uncovered to suggest the construction of a wooden floor on the ground surface around the pit, or to suggest the type of seating arrangement over the pit. There was also no archaeological evidence to suggest the sides of the pit had been shored or braced.

N.C.O.'s Privy

With the exception of a single photograph, there is no historic documentation on the construction of a privy (building 29, Figure 11) in the northwestern corner of the 1879-83 palisade enclosure (Figure 10). Because of its location in relation to the palisade, it is concluded that construction of the privy must date to the 1879 remodeling of the fort layout, or possibly later.

Archaeological excavations indicated that the privy pit was a 2.1 m by 2.4 m oval-shaped feature, centrally located within four building walls; and excavated with near vertical sides to 2.1 m into the substrata (Murray and Sciscenti 1977:102-110). The building itself measured 3.6 m by 2.5 m; and was constructed with vertical post walls, which were set in a 0.5 m deep footing trench. The eastern and western walls of the structure abutted against the northern palisade so that the latter actually formed the back wall of the privy. As represented in the historical photograph (Figure 10), the privy walls appear to measure about two-thirds the height of the palisade. The building was constructed with a shed type roof which sloped down from the palisade and over the southern wall of the structure. Since clay roofing material was not found overlying the building foundations, it is inferred that the roof consisted of a simple board surface only.

A door was located in a 0.7 m wide space in the centre of the southern wall; and a small cluster of pane glass, exposed in the northwestern area of the building site, suggested a window may have been cut into the western wall. The archaeological excavations uncovered no evidence of floor joists or floorboards, and it may be possible that the privy floor simply consisted of the bare ground surface.

Although the category of personnel that used the privy is not documented, it is assumed that the structure was set aside for N.C.O. ranks. This conclusion is initially supported by the proximity of the privy to the the N.C.O.'s barracks. Furthermore, all the other privies and latrines at Fort Walsh are specifically documented as being used by other ranks.

5. Artisan Shops

Given their isolated position on the frontier and the rather restrictive budgets imposed by Parliament, the Mounted Police at Fort Walsh were required to be largely self-sufficient; and were expected to meet their own carpentry and blacksmithing needs. When headquarters were transferred to the post, other artisan shops were set up to provide small manufacturing and repair services for the force, such as shoemaking, harness-making, and gun repair. These later activities were generally placed in buildings that had been initially constructed for other purposes; and, for one reason or another, had been vacated. There were, then, really only three structures built by the police as artisan shops--a blacksmith shop, a carpenter's shop, and a general workshop.

Blacksmith Shop

A small structure located immediately north of the western palisade gate (building 8, Figure 7) can be identified in all the perspective sketches of Fort Walsh (for example, see Figure 16). Since two of these depict the fort at its earliest and latest stages of development, the building is thought to have been constructed as part of the original fort and to have been occupied throughout the entire history of the post. In all cases, the structure is illustrated with its peak aligned at right angles to the western palisade. Historic data showing the layout of the fort, as remembered by retired members of the force generally identify the building to have been constructed with upright log walls and to have been used as a blacksmith or carpentry's shop (see McCullough 1976:252-292). Since the structure underlay the foundations of an extant building from the R.C.M.P. remount station, archaeological investigations have not been undertaken; therefore, it is not possible to confirm building utilization or to comment on its architecture from an archaeological perspective. For the purposes of this study, it is assumed that the carpenter's shop was actually located in the building constructed several years later and located immediately to the north (building 23, Figure 9). This assumption recognizes that the structure described in this section was the oldest of the three artisan buildings constructed by the police at Fort Walsh. Since horses were a very important for the day-to-day functioning of the N.W.M.P., it is thought that the police would have been first concerned with meeting their blacksmithing needs and would have built a shop for such purposes before meeting their carpentry requirements.

Carpenter's Shop

Several perspective sketches which illustrate Fort Walsh in its second and third construction phases show a structure (building 23, Figure 9) immediately north of the blacksmith shop (building 8, Figure 9). The building is illustrated as a rectangular-shaped structure, oriented with its central axis perpendicular to the western palisade (for example, see the Millar sketch, Glenbow-Alberta Institute, NA-52-4). The data (as summarized in McCullough 1976:252-292) suggest the structure was used either as a blacksmith or carpenter's shop. For the reasons outlined in the discussion on the blacksmith shop, it is assumed that the building described here probably functioned as the carpenter's shop. It is also assumed that the structure was probably constructed with vertical post walls, as were the buildings on either side. Archaeological investigations were not undertaken in this area.

Workshop/Stable

Various perspective sketches of Fort Walsh dating to the later two construction phases illustrate a third building in the northwestern quadrant of the fort (building 22, Figure 9). The structure is generally represented as a rectangular-shaped building, oriented parallel to the western palisade. Archaeological investigations undertaken in connection with the excavation of the northwestern privy located the western wall of the structure, and confirmed that the building was constructed with vertical log walls (Murray and Sciscenti 1977:275, item 4). Since the remainder of the building underlay an extant structure, it was not investigated further. Historic plans on the layout of the post suggest the structure functioned as a sick horse stable or general workshop (McCullough 1976:252-292). Indeed, it seems that the building was probably an all-purpose work area since one members of the force recollects that "the use of this building changed so often" that he found it difficult to remember small details about its interior layout (McCullough 1976:282-292).

6. Storehouses

As the headquarters of the N.W.M.P., Fort Walsh was an important distribution centre. From their post in the Cypress Hills, the police could supply their network of local outposts in the surrounding regions. In chapter 5, it was indicated that most of the items the police required for maintaining their presence on the southwestern frontier were shipped at considerable expense from Fort Benton, Montana. Once the goods reached the post, the police were naturally anxious that they be protected from spoilage. For this reason, they constructed special facilities that would help lessen the effects of the elements. As outlined in this section, these buildings were, more often than not, of a better quality than most other buildings at Fort Walsh. They generally required an extra outlay of capital for materials and labour, especially for such items as shingles, nails, and cut lumber.

Stores Building

As initially constructed in 1875, Fort Walsh was provided with a single storage building (building 4, Figure 7). The structure was situated north of the enlisted men's kitchen/mess hall, and positioned to separate the residential area of the fort from the stable compound. The building reportedly measured about 36 feet by 18 feet; and was constructed of horizontally-laid logs, which were saddle-notched at the corners (P.A.C. C-19073; Figure 10; R.C.M.P., H.Q. Neg. No. 266, 7480; P.A.C. RG 18, vol. 7, file 393/75, Walsh to Richardson, 28 August 1875, as cited in McCullough 1976:130).

Historical data on the functional utilization of the structure suggest that, as a store room, the building probably initially housed the quartermaster's and commissary's supplies (McCullough 1976:137). Although the data are not completely clear, it would appear that, by the summer of 1877, the quartermaster's supplies were moved to a new larger building that had been built for such purposes in the middle of the fort compound (building 28, Figure 9). At this time, the roof of the older structure was raised and shingled; and the building converted into a storage facility for oats (McCullough 1976:157). Apparently during the winter of 1878-79, increased billeting requirements necessitated a second change, this time into a barracks. By the following spring, however, the building was again being used as an oat stores. No further data have been found to indicate other changes in building utilization for the duration of the N.W.M.P. occupation.

Archaeological data recovered from investigations of the storehouse were limited because of disturbances to the N.W.M.P. occupational stratum (Murray 1977:45-50). Building dimensions of 11.4 m (north/south) by 6.2 m (east/west) were extrapolated from alignments of white clay spill, and are only approximate. The building entrance was found in the middle of the eastern wall, facing the central compound; and appeared to have been protected by an enclosed stoop (Murray 1977:47). Other features of archaeological significance and artifacts indicative of structural utilization were not recovered.

Armoury

A structure (building 19, Figure 9) located between the N.C.O.'s barracks and the northern stables is identified in the historical documents on Fort Walsh as an armoury, magazine, or ammunition stores (McCullough 1976:258-279). The building was likely constructed sometime in late 1876 or 1877. Force headquarters was moved to Fort Walsh at this time and it is possible that a central ammunition depot was required for distributing these supplies to other police posts in the region. It was also in late 1876 that the four seven-pound artillery pieces were transferred to the fort. Presumably, a facility of some sort would have been required to store the cannons.

Several years after the construction of the armoury, a semi-subterranean powder magazine (building 42, Figure 11) was built in the more remote northwestern corner of the fort. It would appear that powder and ammunition supplies were probably removed from the armoury and stored in the underground magazine where they would be less dangerous in the event of an explosion.

Contemporary photographs suggest the armoury was a horizontal log structure (see Figure 10). It was also built with a steeply pitched roof, the surface of which was shingled. In several perspective sketches of the fort (notably those by Malcolm Millar, Glenbow-Alberta Institute, NA-52-4; S/Sgt. Reckitt, Glenbow-Alberta Institute, NA-1059-1; and F. J. Fitzpatrick, 1921:85), the building is clearly shown with a large double door in the centre of the south wall which faced the structure towards the main compound. The extra large door was probably required for moving the field pieces in an out of the building. Since the historic building underlies a structure from the R.C.M.P. remount station, the armoury was not investigated archaeologically. Further data on building construction is not available.

Quartermaster's Stores

A relatively large rectangular-shaped building (number 28, Figure 9) was located adjacent to the western side of the guard room (building 25, Figure 9) within the central fort compound. The structure is identified as the Quartermaster's stores in several interviews with retired members of the N.W.M.P. who had been stationed at Fort Walsh (McCullough 1976:252-292).

Construction of the Quartermaster's stores probably dates to 1877. In a list of improvements made to the fort in that year, reference is made to the construction of a large storage building (Canada, R.N.W.M.P. 1973, Report 1877:23). Although the document does not specifically identify the stores building as the Quartermaster's, other documents make this inference possible. For example, the Delaney sketch (Figure 16) clearly indicates that construction of the building had not been undertaken prior to July 1876; while later photographs show the building was completed at least by the summer of 1878 (e.g. Figure 8).

The Quartermaster's stores was a large building measuring 6.45 m (east/west) by 13.7 m (north/south). Construction details were basically similar to other fort buildings in that the exterior walls were built from horizontally-laid, saddle-notched logs, with whip-sawn lumber used in the floors, doors, windows, and gables. Deposits of white clay along the exterior and interior building walls indicated that the structure was whitewashed (Murray and Sciscenti 1977:45). Entrance to the building was by a centrally-placed door in the western wall, and faced the structure towards the stable compound. One window is known to have been located in the western wall near the northern corner (R.C.M.P. H.Q. Neg. No. 7480). The roof of the Quartermaster's stores was made with a steep "A" frame, planked and shingled. The gable above the northern and southern walls shows a wide verge, and was enclosed with vertical planking (Figure 10).

One contemporary photograph shows the upper section of the northern end of the Quartermaster's stores to be supported by a set of tiebeams (R.C.M.P. H.Q. Neg. No. 7480). Unlike other police buildings, the quartermaster's stores was apparently not subdivided into rooms. Given the unusual size of the structure, the tiebeams were probably required to provide extra support to the midsections of the eastern and western walls. The northern tiebeam was located about one third of the building length from the northern end. Although the southern half of the structure can not be seen in the photograph, it can be presumed that a second set of tiebeams was probably also located at this end. The northern tiebeam (and presumably the southern tiebeam followed the same pattern) consisted of three saddle-notched logs which were set to span the width (east/west) of the super structure. With the upper wall logs and foundation log firmly secured, a heavy plank was nailed to the exterior of the wall to hold the remaining logs of the superstructure in place.

The obvious additional expenditures and planning expended on the Quartermaster's stores, particularly in the shingle roof, was apparently justified on the grounds that the improved building techniques would save considerable loss to the supplies by helping to keep the storehouse's interior dry (Canada, R.N.W.M.P. 1973, Report 1878:23). Other measures were also taken within the building interior which would protect goods held in storage from spring runoff. Archaeological investigations indicated that, rather than build the floor directly on the ground surface as was usually the case at Fort Walsh, the joists were probably raised several centimeters above the ground surface and set on three sleepers (Murray and Sciscenti 1977:45). Further modifications to the basal construction design, which would possibly compensate drainage problems, were not observed.

Ice House

The foundations of a semi-subterranean building have also been located on the Battle Creek flood plain, about 50 m west of the southeastern corner of the Fort Walsh palisade (Wylie 1978:76). Historical documentation, although not conclusive, suggests the N.W.M.P. had constructed their ice house in this general area (McCullough 1976:252-292). Since surface investigations have not located the foundations of any other structures in the area outside the western or southern palisades (with the exception of the two enlisted men's latrines), it has been concluded that the semi-subterranean building was probably the ice house. The subterranean nature of these foundations would appear to concur with this conclusion since this construction method was common throughout the nineteenth century in instances where good insulation was required, as would be the case for an ice house.

The construction date of the ice house is not known. It is also not known if the structure was simply used for the storage of ice or if it was also used as a refrigerator in which food products would be kept. Archaeological research was not undertaken on the building.

Root Cellars

Two large depressions, measuring 13.0 m by 7.0 m and 12.0 m by 7.0 m, are located south of Fort Walsh (Wylie 1978:74). Since the features average over 1.0 m deep and are arranged with their longitudinal axes cut into a terrace edge, they are thought to be the remnants of root cellars. Although the historical records on Fort Walsh do not specifically document these buildings, it is thought such facilities would have been necessary since the police are known to have kept a garden at the fort and would have required some method of preserving their produce over the winter months. It is also unlikely that the depressions are representative of cellars built by another group. Size alone would appear to preclude any other possibility than the N.W.M.P. As well, the root cellars built by the ranchers who settled in the area after the N.W.M.P. abandonment of the post are known to be located elsewhere. Archaeological investigations of the root cellars were not undertaken.

Powder Magazine

Ex-Staff Sergeant G. S. Cotter, who was stationed at Fort Walsh from 1879 to 1881, states that an excavation in the northwestern corner of the fort marks "an underground magazine, with a sloping entrance and a substantial roof several feet above ground, square and two sided" (as cited in McCullough 1976:282-292). The accompanying sketch locates the structure some distance from the western and northern palisades and southeast of the circular northwestern bastion. An article in the Manitoba Daily Free Press of 1880 confirms the location of the magazine "close to the western bastion" (as cited in Morgan 1970:89). Since the magazine lies outside the confines of the original palisade, it must have been built after the major 1879 renovations. While there are no historical references identifying the materials stored there, presumably the magazine was used to hold ordnance, including powder and ammunition for the seven-pound artillery field guns that the police kept at the fort.

Archaeological excavations indicated that the magazine was constructed in a 4.6 m by 8.2 m pit which had been excavated 2.53 m to 2.70 m below surface. The building was rectangular, measuring 6.75 m by 4.0 m with the longitudinal axis extending in a northerly/southerly direction. The structure was offset to the western side of the pit, and has an entry extending east from the eastern wall at the southern corner.

There were a number of differences in the construction of the main structure and entry. The walls of the main part of the magazine were constructed from horizontally-laid logs, saddle-notched at the corners. The space between the building walls and pit sides were reinforced with the excavated dirt. The reinforced nature of the walls is consistent with the use of the building as a powder magazine.

The entrance, on the other hand, consisted of a slightly irregular rectangular-shaped pit 6.4 m long (east/west) and 2.38 m wide in the 1.94 m long section adjacent to the main structure, and 1.68 m wide in the remaining 4.2 m section to the east. The eastern section of the entry is framed with small vertical posts circa 0.12 m in diameter set into sterile subsoil 0.3 m to 0.4 m. The small size of the poles and shallow depth would appear to indicate that the walls were not load-bearing, or that the roof in this section was not built with substantial or large-size materials.

Because the longitudinal axis of the magazine is oriented north to south, it is assumed that the central peak was also oriented in this direction with the roof pitched from east to west. In consequence, the northern and southern walls would have projected above the ground for some distance, possibly more than a meter, to allow for attachment of the entry superstructure. Although there are no archaeological data, it is probable that the entrance was attached as a "dormer".

None of the artifacts recovered during excavations appear to have been directly associated with the use of the powder magazine. The artifacts from each layer consistently appear to represent random refuse. Only the semi-subterranean nature of the building, and the coincidence of documentary and archaeological location and description confirm utilization as a powder magazine. No other structure within the confines of the fort fits either the historical, locational, or descriptive data and archaeological evidence for the powder magazine. The proposed location of a magazine adjacent to the 1880 northern palisade, suggested by McCullough (1976:301-304), is in error. The structure against the northern palisade, noted by McCullough (1976: 301-304), has been identified as the N.C.O.'s privy.

7. Stables

The horse was vital to the N.W.M.P. presence in the North-West Territories. The force tended to expend considerable costs towards the care of their herd, including the construction of special buildings for its shelter. The buildings described here were built for such purposes or for the storage of implements directly related to the care of the force's herd.

Northern Stable

Historical information on the northern stable (building 5, Figure 7) at Fort Walsh is limited to several perspective sketches and photographs. These illustrate the relationship of the structure to other buildings in the fort compound, but provide minimal data on its architecture or techniques used in construction. The contemporary sketch by Richard B. Nevitt, a surgeon with the N.W.M.P. from 1874 to 1878, and a letter written by Superintendent James M. Walsh, summarizing their progress on the construction of the fort, date construction of the stable to August 1875 (Figure 6; P.A.C. RG 18, vol. 7, file 393/75, Walsh to Richardson, as quoted in McCullough 1976:130). Archaeological investigations located the stable near the northwestern corner of the 1875 fort enclosure with the palisade abutting the northwestern and northeastern corners of the building (Murray and Sciscenti 1975:147). In this way, the back wall of the structure also served as part of the palisade.

The stables was a rectangular-shaped structure, measuring 18.7 m by 8.0 m; and was oriented with the longitudinal axis aligned in an easterly/westerly direction. The exterior walls consisted of skinnned, unshapened logs averaging 0.10 m to 0.20 m in diameter. The logs were placed upright in a footing trench which varied from 0.15 m to 0.40 m in width and approximately 0.30 m in depth. Patches of white clay found on the ground surface along both sides of the building walls confirmed that the interior and exterior surfaces were whitewashed (Murray and Sciscenti 1977:151).

The entrance to the stable, which was centrally located in the southern wall, appeared as a 2.10 m space in the footing trench and wall post alignment. A shallow depression in the 1875 ground surface immediately to the exterior of the feature was probably a result of soil compaction and wear from traffic entering and leaving the building.

The interior of the stables was functionally divided into three major areas, as based on floor construction methods and floorboard alignments. These consisted of: a 1.7 m wide aisle, centrally located between the northern and southern walls, and running the length of the building; stall areas, measuring 1.36 m wide and located on each side of the aisle along the northern and southern walls; and an entrance area. The stall divisions were spaced at 1.4 m intervals along the length of the structure. The divisions were delineated on the building floor by a 0.2 m square hole that had been cut into the floorboards. The holes were set about 2.4 m from the stable walls; and contained remnants of small posts, averaging 0.10 m in diameter (Murray and Sciscenti 1977:155). A rope, chain, or board wall was probably constructed between the stall posts and the exterior wall in order to section off the stalls. Given the width of the stall divisions, the north stable could have accommodated a maximum of 25 horses.

Southern Stable

Historical documentation on the southern stable (building 12, Figure 7) at Fort Walsh is not well represented. The data indicate the structure was built as part of the original fort, and was situated to oppose symmetrically the northern stable (building 5, Figure 7). With the 1879 expansion of the palisade enclosure to the southwest, the southern stable effectively divided the stable compound into two separate parts. This arrangement necessitated the construction of a third gate in the southern palisade in order to provide access to the new stable that had been built in the southwestern quadrant of the new compound (building 43, Figure 11). It also meant that a single sentry could not keep watch over the entire compound, thereby making it easy for personnel to desert their post. Consequently, in late 1880, the southern stable was dismantled in an effort to make the stable yard a single compound again (P.A.C. RG 18, vol. 2185, Irvine to the Minister of the Interior, 3 November 1880, pp 12-15, as cited in McCullough 1976:174-175).

Archaeological test excavations in the area of the southern stable indicated that there were few remnants remaining of the original structure. Other than the foundation footing trenches and the basal sections of the wall posts, the building site had been completely cleared of any architectural remains as a result of the dismantlement process. The investigations, however, confirmed the location of the structure; and indicated that the stable had been constructed with vertical log walls.

North Auxiliary Structure

Archaeological investigations uncovered the remains of a small structure (building 6, Figure 7) that had been built adjacent to the southeastern corner of the northern stable (building 5, Figure 7). Unfortunately, historical documentation on the building at this location is minimal. The Delaney sketch (Figure 16), which was published in the summer of 1876, shows some form of building activity in this area; but the perspective does not allow for a proper identification of the structure. Since archaeological investigations provided no indication of building activity other than the structure reported here, it has been concluded that the Delaney was attempting to sketch the northern auxiliary structure. This means, then, the building probably dates to late 1875 or early 1976; and was among the first structures to be built at Fort Walsh.

Although the reminiscences of retired members of the force suggest a harness room may have been located in this area, it is now realized that they were probably referring to a second structure (building 37, Figure 11), located a few metres further south, at the southwestern corner of the oat stores (see McCullough 1976:276-279 and the discussion on the harness room in this appendix). Unfortunately recent disturbances to the building foundations were extensive, and the number of diagnostic artifacts recovered from the archaeological excavations were minimal. Among the few artifacts that could be identified, however, were a pitch fork and hoof pick (Murray 1977:53). While recognizing that two artifacts do not provide conclusive data on building utilization, it is suggested that the building may have been used as extra storage space for stable tools, horse grooming equipment, riding tack, or feed. Certainly, the proximity of the structure to the northern stables would appear to substantiate its use in a stable-related capacity.

The auxiliary structure measured 7.2 m by 4.1 m; and was aligned with the longitudinal axis oriented north/south. The walls were constructed of logs that had been placed upright in a footing trench which averaged 0.3 m wide and 0.5 m deep. The eastern and western walls of the structure abutted the southern wall of the stable, with the latter forming a common wall between the two buildings (Murray 1977:54-56).

The structure can be identified in only one historic photograph (P.A.C. C-19073). Although the quality of the photograph is poor, the building walls appear to measure less than the height of the northern stable walls. This feature can probably be attributed to the problems the police could have incurred with water run-off from the stable roof. Since the two buildings adjoined each other, water run-off from the stable would have flowed into the northern gable of the smaller structure unless its roof was built to fit completely under the eaves of the stable. If the roof of the smaller structure was to fit under the eaves, the building walls would have had to be shorter than those of the stable in order to allow clearance for the pitch in the auxiliary structure roof.

The entrance to the auxiliary structure was delineated by a 0.9 m space in the western wall footing trench, 1.4 m south of the northwestern building corner. No archaeological evidence was found indicative of window locations. Extensive disturbances to the structural remains precludes any other statements on building architecture.

Southern Auxiliary Structure

Archaeological information on the building (number 13, Figure 7) at the northeastern corner of the southern stable (building 12, Figure 7) is limited primarily to data on the wall foundations. Minor variations in the dimensions of the features and the material used as backfill suggest that at least two separate buildings were represented.

As documented in the archaeological remains, the layout and construction of the earlier building appeared similar to the auxiliary structure (building 6, Figure 7) recorded at the southeastern corner of the northern stable (building 5, Figure 7). The 6.0 m by 2.5 m structure was built from logs placed upright in a footing trench; and was oriented in a northerly/southerly direction with the eastern and western walls abutting the corner of the southern stable. An easterly/westerly aligned vertical log wall partitioned the interior of the structure into two equal-size rooms (Murray 1977:57-63).

Because of the similarities in its layout with the northern auxiliary structure, it can be assumed that the superstructure was probably also built with a peaked roof; and, in order to allow for run-off, the wall height would have measured less than the wall height of the southern stable, with the peak of the auxiliary building fitting under the eaves of the stable. Archaeological data on entrance locations, floor construction, and building function were not recovered. However, the proximity of the structure to the southern stable suggests a stable-related utilization. The structure may have provided auxiliary space for the storage of riding tack, feed, or stable tools.

At some point the southern auxiliary structure was dismantled and the site used for the construction of a second, much larger building which measured 6.8 m by 4.1 m. The dismantlement process included the removal and replacement of the northern and western walls, 0.5 m further east and north, to cross-cut the northern wall line of the original building at the intersection of grid lines 10E and 32N (Murray 1977:190). The remodelled building was also expanded to abut the northwestern and southwestern corners of the cookhouse (Building 21, Figure 11). Although it could not be determined if the easterly/westerly dividing wall in the auxiliary structure was retained, the eastern wall was apparently extended 0.5 m north to partition the new building into eastern and western halves.

Because of the layout and location, the structure was probably built with a shed roof which sloped from the eaves of the cookhouse. To some extent, this method of construction was confirmed by the excavations, which located two posts equidistant between the northeastern and southeastern corners of the structure and adjacent to the western wall of the cookhouse. The posts possibly supported the rafters that abutted the eaves.

The date of the renovation is not historically documented. However, since the building was structurally tied into the cookhouse, the renovation can not pre-date the 1877 cookhouse construction. It is possible that the remodelling dates to the 1879 fort expansion since the dismantlement of the southern stable in that year probably also meant that the earlier auxiliary building was no longer required. The N.W.M.P.possibly rebuilt the structure to meet new requirements. Since the remodelled structure was located adjacent to the cookhouse, it is possible that the building was renovated to provide additional facilities related to meal preparation, such as the storage of firewood or garbage. Unfortunately, artifacts recovered from the excavations were limited and can not be used to identify building function.

Sick Horse Stable

Photographic documentation on Fort Walsh indicates the construction of a large building (number 18, Figure 9), oriented parallel to the western palisade, and situated between the western palisade gate and southern stable (see Figures 8 and 10). Secondary data consisting of reminiscences of retired N.W.M.P. personnel identify the structure as the sick horse stable. (McCullough 1976:252-304). This information is further substantiated by a contemporary account written by Superintendent McIllree to Commissioner Irvine (P.A.C. RG 18, vol. 2231, pp 85-86, 9 November 1881, as cited in McCullough 1976:192). Since the building does not appear in the Delaney sketch of Fort Walsh (Figure 16) but is only evident in later photographs (Figure 8 and 10), it is assumed the structure was probably built sometime in in late 1876-77 as part of the general expansion programme undertaken at that time. Unfortunately, the foundations underlie an extant structure built by the R.C.M.P. as part of their remount station. An architectural summary of the building, therefore, can not be ventured at this point other than to indicate that the structure, as represented in archival photographs, appears to have been built with vertical log walls and a board roof.

Southwestern Stable

The 1881-82 photograph of Fort Walsh shows a long rectangular-shaped structure, oriented north/south, in the southwestern corner of the fort enclosure, as expanded in 1879 (see Figure 10). Documents presented in McCullough (1976:252-292) and as confirmed by archaeological investigations identify the building as a stable (Murray and Sciscenti 1977:131-146). The structure (building 43, Figure 11) measured 27.4 m by 9.1 m; and was built from upright logs set into a footing trench which averaged 0.5 m in width and varied in depth below the ground surface from 0.4 m along the southern wall, to over 1.0 m along the northern wall. The wall posts were generally set along the inside of the footing trench, which appeared to have been backfilled with the same subsurface material that had been removed for the footing excavation. Photographic documentation suggests the wall posts were a height similar to the palisade (Figure 10).

At the level of the 1883 ground surface the wall posts varied in diameter from 0.08 m to 0.27 m, and were spaced from 0.02 m to 0.11 m apart. There was no observable pattern in the distribution of post size, although the posts at the building corners and on either side of the eastern entrance were slightly larger in diameter than average. White clay was found in scattered patches in exterior and interior areas of the structure, indicating the walls were probably chinked and covered with a clay whitewash.

Entrance to the stable was centrally located in the eastern wall, 13.0 m from the northeastern corner of the building. Evidence for the feature consisted of an 1.85 m space in the eastern wall footing trench and wall posts. A slight depression in the 1880 ground surface, possibly resulting from traffic through the area, was also evident to the exterior of the feature. Door hardware was also found associated with the entrance, including a padlock, which was located 3.7 m south of the feature (Murray and Sciscenti 1977:139).

The stable roof was slightly pitched, with the ridge aligned along the longitudinal axis of the structure. The 1881 photograph indicates roofing material on the southern end of the building probably consisted of planks laid from the central peak to the eaves. Although the northern section of the roof appears to have been under construction or repair when the photograph was taken, it was probably also finished with planks (see Figure 10). Clay insulation does not appear to have been used as a building component.

The building site sloped considerably to the south, requiring the gradient to be leveled prior to building construction. The levelling sequence consisted of cutting and scraping the sterile deposits in the upslope northern sections of the building to a maximum of 0.5 m below the contact surface. The exterior walls were then constructed, followed by further levelling with the deposition of clayish loams and gravels in the exterior and interior downslope sections of the building site. Maximum thickness of the deposits, along the southern wall, measured 0.25 m. The source of the fill is not known; however, it is possible that some of the material may have been obtained from the powder magazine and latrine excavations which were also being constructed around this same period.

The levelling did not completely offset the gradient; elevation readings along the tops of the floor joists record a variation of 0.3 m in the floor height over the length of the structure. It is possible that the floor level was specifically designed to follow the gradient in order that some of the horse excrement might drain out of the building.

In an attempt to compensate for the slope in the construction of the superstructure, the wall footing trench was also levelled. Although elevations were not recorded along the complete trench bottom, testing in selected areas suggested that the feature progressively deepened toward the up-slope areas (as already indicated above). Levelling of the footing trench suggests the wall logs had been pre-cut to standard lengths prior to their placement in the ground.

As suggested by the different methods in floor construction, the interior of the stables was spatially divided into three major activity areas, which consisted of a 2.4 m wide aisle, centrally located between the eastern and western walls, and running the length of the building; stall areas, measuring 2.85 m in width and located on each side of the aisle, along the eastern and western walls; and an entrance area. Stall divisions in the stables were spaced at 1.5 m intervals along the eastern and western walls, providing room to accommodate about 34 horses.

1881 Stable

In the winter of 1881 Superintendent McIllree ordered the construction of an extra stable that would accommodate 15 horses. Apparently there was a shortage of stable space at Fort Walsh, and a number of horses were required to spend the winter outside (P.A.C. RG 18, vol. 2231, pp 85-86; as cited in McCullough 1976:192). Although McIllree probably recognized that Fort Walsh was to be abandoned soon, the expense of a new stable was justified on the basis that the horses left standing outside "were continually kicking each other, getting sick and there was a great waste of hay

(P.A.C. RG 18, vol. 2231, pp 290, as cited in McCullough 1976:201). The structure was constructed at minimal expense by using the ends of two other buildings, the southwestern stable (built the year previously, building 43, Figure 10) and the sick horse stable (building 18, Figure 10).

Archaeological investigations of the 1881 stable were not undertaken, since the structure was located under an extant structure. However, when excavating the stable to the south, the southeastern and southwestern corners of the structure were uncovered, confirming that the structure measured 7.7 m wide (slightly narrower than the stable to the south), and had been constructed from upright logs. No evidence of a wood floor was uncovered; but, since only a limited area of the building had been exposed, it could not be determined if the police had only used the bare ground surface, or if the wood floor had been removed with building dismantlement.

Harness Room

Archaeological investigations near the southwestern corner of the stores building (number 4, Figure 11) located a rectangular-shaped structure, measuring 8.4 m north/south by 3.9 m east/west (building 37, Figure 11). Plans of the fort, drawn by retired N.W.M.P. personnel (see McCullough 1976:276-279), suggest that a harness room was located somewhere immediately west of the stores building. Although the records generally place the structure further north than the structure documented archaeologically, it is assumed that their reminiscences are in error and that the harness room was probably the building situated at the southwestern corner. This interpretation is in keeping with the artifacts recovered in association with the structure, such as curry combs and harness buckles (see Murray 1977:64-70). Photographic documents date the construction of the building between 1878 and 1881 (P.A.C. C-19073; Glenbow-Alberta Institute NA-52-4).

The harness room was constructed with vertical log walls that were set upright in a foundation footing trench. The white clay found in association with the wall features suggests the building was probably whitewashed. A door was located in the western wall of the structure, equidistant between the northwestern and southwestern corners; and oriented the harness room towards the central area of the stable compound. The feature was delineated by a 0.8 m by 0.2 m plank situated within a 0.8 m space in the western wall footing trench. Pane glass fragments suggest windows were probably built into the harness room, but their locations could not be determined archaeologically.

The absence of roofing clay in the stratigraphy overlying the building foundations and the recovery of a quantity of 1 inch and 1½ inch square headed nails suggest the roof was probably shingled. Similarly, a comparison of nail types to buildings that are known to have been constructed with a wooden floor suggests the harness room probably also had a wooden floor, although no remnants of the feature were found during the excavations.

Veterinary's Office

Almost without exception, plans drawn by retired personnel to show the layout of Fort Walsh locate a single room veterinary's office (building 20, Figure 9) at the extreme western end of the enlisted men's barracks complex (buildings 15 and 17, Figure 9), almost directly south of the enlisted men's mess and cookhouse (buildings 14 and 21, Figure 9). Since the structure does not appear in the first sketches of Fort Walsh (Figures 6 and 16), it must have been built sometime during the first renovations.

Excavations in the area suggested by the documentation (building 20, Figure 9) confirmed this interpretation

(Sciscenti et al 1976:64-99). The investigations uncovered a single room structure which was probably square shaped and which contained a considerable quantity of large bulk packer medicine bottles. The building was constructed with horizontal log walls that were saddle-notched at their corners, and featured a roof which was insulated with clay and finished with a board surface.

8. Miscellaneous Structures

Four structures built by the N.W.M.P. at Fort Walsh cannot be classified under the seven functional categories listed in this appendix, and have been grouped together under a miscellaneous heading.

Library and Recreation Building

Because of its isolation from major population centres, recreational facilities at Fort Walsh were necessarily quite limited. Although there were many hours for relaxation, especially during the winter months, most sources of entertainment usually open to the police were only those that they could provide themselves. The force encouraged sports and other outdoor activities, but these pursuits were not always practical once the weather turned for the worse. As far as indoor recreational activities were concerned, personnel at Fort Walsh were usually confined to their barracks, which, in the case of the enlisted ranks, were already badly crowded and only further contributed to the sub-standard living conditions the police were required to accept.

In his report to the Parliament in 1880, Commissioner Irvine recognized the value of proper indoor recreational facilities, and sought to justify government expenditure on such needs by citing Imperial regulations:

> In the British service, where, in most cases, the men are in the midst of comforts and amusements that civilization affords, it is nevertheless, deemed most advisable that regimental libraries and recreation rooms be established. The object is:
>
> "To encourage the soldiers to employ their leisure hours in a manner that shall combine amusement with the attainment of useful knowledge, and teach them the value of sober, regular and moral habits."
>
> This, I consider, applies even more strongly to the North-West Mounted Police, whose ser-

> vice is performed in a country where the surroundings are so totally different from those to which they have been accustomed, and where they are deprived of such pleasure and recreation as in the older Provinces are always attainable [Canada, R.N.W.M.P. 1973a, Report 1880:10].

The recreation and library building at Fort Walsh was probably constructed in the 1880's, since the structure does not appear in the earlier photographs of the post (for example, compare Figures 8 and 16). A comment by a contemporary visitor to the fort published in Turner (1950:632) suggests the structure was built in 1881. This date is substantiated by other primary sources; for example, the first specific reference that Commissioner Irvine makes to the structure is in his 1881 year-end report to Parliament (Canada, R.W.M.P. 1973a, Report 1881:22).

The Fort Walsh library and recreation building (number 38, Figure 11) was located along the eastern side of the compound, between the officers' quarters and the Commissioner's residence. The structure was a rectangular shape, measuring 8.1 m by 6.1 m; and was constructed of horizontally laid logs which were saddle-notched at the corners. The structure was partitioned into two equal-size rooms by an interior wall which also consisted of horizontally-laid logs that were saddled-notched into the main eastern and western walls. A doorway located in the middle of the interior wall connected the two rooms. All wall surfaces were whitewashed with white clay (Sciscenti et al 1976:131-136).

Roof construction techniques appear similar to those used on residential buildings at Fort Walsh (see Figure 10); That is, the roof had a low pitch and was built with the peak aligned along the central axis. Split poles of varying size were set flush against each other, flat side down; and strung from the peak to the plate logs. Several rows of "nailers" were spaced about a meter apart, and were laid across the tops of the split logs (one of which can be seen in P.A.C. C-19025-B). The space between the nailers was then filled with clay. The surface was finished with two layers of wide planks that were laid from the peak to the eaves in a board and battern style.

Photo documentation, as confirmed by archaeological investigations, indicates both rooms of the library were accessible by entrances in the western wall (P.A.C. C-19025-B; Sciscenti et al 1976:131-136). The doors were located in the southwestern corner of each room; and were protected by an enclosed porch or stoop which, in each case, was entered from the northern side. The porches were a frame construction, with walls and roofs built from wide planks. The roofs were fitted to abutt against the building wall under the eaves. The same photograph also locates two windows in the western wall of the structure. One window is situated between the northern stoop and the northwestern corner, and the second between the southern stoop and the interior wall.

Artifact distributions suggest the two rooms may have been used for slightly different purposes. While far from conclusive, the brass paper fastners and parts of stoneware ink bottles found in the southern room may possibly indicate use of the area for letter-writing and reading activities. On the other hand, the northern room may have been used for games, as suggested by the incidence of ornate cribbage pegs and several small bone tiddley winks (Sciscenti et al 1976: 131-136).

Guard Room

The historical documents on the guard room (building 25, Figure 9) at Fort Walsh do not precisely date the year the building was constructed. However, a relative building date of late 1877 or early 1878 can be inferred from the structure's presence in photographs dated 1878, but its absence in the 1875-76 sketches by Nevitt (Figure 6) and

Delaney (Figure 16). This was also the period during which the force headquarters were moved to the fort. The N.W.M.P. were the major judicial body for the North-West Territories, and confinement facilities would have been required for detaining suspects and convicted criminals.

Contemporary historic photographs, as confirmed by archaeological investigations, locate the building in the centre of the fort compound, immediately east of the quartermaster's stores and facing the eastern palisade gate (Figure 10). The guard room was a square-shaped building, measuring 6.5 m on each side (Murray and Sciscenti 1977: 53). The walls were constructed from horizontally-laid logs, 14 to 16 rows high, which were whitewashed with clay and saddle-notched at the corners (R.C.M.P. C-19075C; Murray and Sciscenti 1977:53). An entrance was cut into the middle of the eastern wall, and windows were located at each side of the door (P.A.C. C-19075C). A sentry box was apparently later placed in front of the southeastern window (Figure 10). The guard room roof was an "A" frame construction with the central ridge pole aligned east/west. The roof surface was finished with shingles, and the gables were enclosed with vertical board planking that was probably fitted in a board and batten style.

The building interior was divided into two equal-size sections by a horizontally-laid log wall which was saddle-notched into the northern and southern building walls (Murray and Sciscenti 1977:53). The western section was apparently the prisoners' confinement area, and was further divided into three cells. Tests into the substrata underlying this side of the building indicate modifications to the basal foundations in an attempt to secure the cell area against the possibility of a prisoner's escape. The modifications consisted of a subterranean barrier which was laid under the exterior walls of the cell section in the western half of the guard room. The feature included a row of half meter stakes closely fitted together in a 0.3 m wide U-shaped trench which was excavated to 0.48 m below the 1875 ground surface. Situated as such under the exterior walls, the stakes would form an effective barrier against a prisoner attempting to tunnel under the building foundations. As well, a tie-beam was laid north/south across the cell area of the structure at the level of the eaves (R.C.M.P. H.Q. Neg. No. 2768). A board ceiling may have been constructed along the underside of the tie-beam in order to enclose the upper part of each cell.

Orderly Room I

As originally constructed in 1875, Fort Walsh was reportedly provided with an orderly room and office (building 2, Figure 7). The facility was located in the structure immediately north of the eastern palisade gate (compare Figure 6 with P.A.C. RG 18, vol. 7, file 393/75, Walsh to Richardson, 28 August 1875, as cited in McCullough 1976:130). Evidently, the building was a similar size to the officer's quarters, measuring approximately 36 ft by 18 ft; and was divided into three rooms (see Turner's interview with Ex-Staff Sergeant G.S. Cotter, as cited in McCullough 1976:282-292). Perhaps because of pressures brought about by an increase in the number of personnel stationed at the post, the orderly room was transferred a short time later to a new building (number 24, Figure 9) located along the north palisade. Various ground plans drawn by retired personnel to show the fort layout indicate the older orderly building was, at this time, converted to a hospital and quarters for officers, specifically senior officers such as the Superintendent and Surgeon. By 1881 the hospital facility was also transferred to a new building (number 39, Figure 11). Although the changes that were undertaken in the former structure to accommodate the transfer are not documented, it is thought that the extra room may have been used as an officer's residence. Since the foundations of the orderly building currently underlie an extant building from the R.C.M.P. remount station, archaeological investigations have not been undertaken.

Orderly Room II/Officers' Mess

Historical documents on Fort Walsh indicate that, when an expansion of the existing facilities was undertaken in late 1876-77, a new building was constructed in the northwestern corner of the compound (building 24, Figure 9). The records unanimously agree that the structure housed the new orderly room (which had been transferred from building 2, Figure 9) and the officers' mess (see McCullough 1976:252-304). In some instances, such as on the ground plan of the fort drawn by G.B. Moffatt, a retired member of the force, the officers' kitchen is also identified to lie at the extreme eastern end of the structure. It is felt, however, that such interpretations have confused the location with the annex (building 32, Figure 11) that was built a few years later at the northeastern corner. Although the orderly room/officers' mess has not been documented archaeologically, contemporary photographs suggest the structure was built with horizontally laid log walls and a board roof (Figure 10).

Hospital

Construction of the hospital began October 25, 1881 and was completed by December of the same year (see McCullough 1976:198). The structure (number 39, Figure 11) was located a short distance from the northeastern corner of the fort, near the ford which crossed Spring Creek at the town-site. As documented in the historical and archaeological records, the hospital consisted of two buildings which were laid out with the larger 13.6 m by 5.0 m structure oriented east/west and a smaller 4.15 m by 3.8 m building, oriented at right angles. The latter was situated to the north and was attached to the larger building by a small vestibule. The smaller structure may have been built as a later annex to the main part of the hospital, since a living surface extended under the floor. Initially, the annex would appear to fit the historic notation which describes the hospital as a two ward building with an attached steward's room and kitchen (P.A.C. RG 18, vol. 2231, p. 290, McIllree to Irvine, 10 January 1882, as cited in McCullough 1976:201).

The main part of the hospital was constructed from horizontally laid logs, saddle notched at the corners. In situ evidence suggests that the western third of this structure was divided from the remainder of the building by a horizontal log partition which was saddle-notched into the northern and southern walls at 4.2 m from the western wall. Although archaeological features along the eastern half of the hospital were essentially eradicated, it is proposed that a similar wall also divided the eastern section. The resulting layout would have equally proportioned the hospital into three rooms.

The entrance to the hospital was centrally located in the southern wall of the larger building. White clay spill in an "L"-shaped pattern suggested the entrance was protected by an enclosed porch that measured 2.0 m from the wall and 1.4 m in width.